

Enhancing Boating in Maryland: Task Force Final Report



September
2015

Report of the Task Force to Study Enhancing Boating
and the Boating Industry in Maryland
MSAR #9816

This report represents the recommendations of the Task Force to Study Enhancing Boating and the Boating Industry in Maryland, created as a result of Senate Bill 90 (2013).



Maryland Department of Natural Resources Boating Services provided Staff support to the Task Force, including preparation of this report.



The Environmental Finance Center (EFC) is located at the University of Maryland in College Park. The EFC is a regional center developed by the Environmental Protection

Agency to assist communities and watershed organizations in identifying innovative and sustainable ways of implementing and financing their resource protection efforts throughout the Mid-Atlantic region. The EFC is non-advocacy in nature and has assisted communities and organizations in developing effective sustainable strategies for watershed protection goals and requirements.

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Task Force Membership

The Secretary of the Department of Natural Resources or the Secretary's designee, who shall serve as the chair of the Task Force, and the following individuals appointed by the Secretary:

- (1) one representative of the **Marine Trades Association of Maryland**;
Susan Zellers
- (2) one representative of the **Department of Business and Economic Development**;
Marci Ross, Heather Ersts, Maryland Office of Tourism Development
- (3) one representative of the **Maryland Association of Counties**;
Mark Garrity, Anne Arundel County
- (4) one representative of the **Maryland Municipal League**;
Michael Vlahovich, President, St. Michaels Commissioner
- (5) one representative of the **Boat Owners Association of the United States**;
Bob Adriance
- (6) one representative of the **Recreational Boating and Fishing Foundation**;
Michael Belitzky, Libby Yranski, NMMA
- (7) one representative of the **Chesapeake Bay Yacht Clubs Association**;
Coles Marsh
- (8) one representative from the **Maryland Boat Act Advisory Committee**;
Jon Sheller
- (9) one individual representing **paddle sports**;
Ralph Heimlich, **Chesapeake Paddlers Association**
- (10) one representative of a **local tourism board or visitor bureau** in a county that borders the Chesapeake Bay. Debbie Birch, **Queen Anne's County**

University of Maryland Environmental Finance Center: Naomi Young, Jennifer Cotting

Maryland Department of Natural Resources: Mark O'Malley, Sharon Carrick, Paul Chenoweth

Maryland Department of Legislative Services: Andrew Gray

Task Force Objectives

The Task Force shall:

(1) Evaluate options and make recommendations for enhancing boating and growing the boating industry in the State; and consider the following:

- (i) incentives to encourage boats to register in the State and use marinas and boatyards for recreation, repair, and outfitting in the State;
- (ii) the impact of modifying the State vessel excise tax rate and boat registration fees;
- (iii) the expenditure and use of the Waterway Improvement Fund and its benefits to the general boating public and the State's boating industry;
- (iv) the impact on the boating industry and the general boating public of decreased State and federal spending on boating access;
- (v) the costs and needs of maintaining and improving public boating infrastructure and boating safety; and,
- (vi) any other matter that the Task Force agrees will enhance boating in the State.

(2) On or before September 1, 2015, the Task Force shall submit a report of its findings and recommendations to the Governor and, in accordance with § 2-1246 of the State Government Article, the General Assembly.

Executive Summary

Recreational boating represents \$2.2 billion in economic impact and over 20,000 jobs to the State of Maryland. As the word “recreational” suggests, boating is a discretionary expense and as such, boating is inextricably linked to the state of the economy both nationally and here in Maryland. During the economic downturn from 2009 through 2013, there were two disturbing trends in boating in the State: a reduction of 14,000 boats registered in Maryland and a 50% reduction in revenue to the Waterway Improvement Fund (WIF).

Fortunately, it appears that this situation is in our wake. Economic indicators are positive, and we have seen an upswing in boat sales and registrations, and a resulting increase in WIF revenue. The tax cap imposed by Senate Bill 90 enacted in May of 2013 is a likely contributor to these improvements. This bill created a ceiling of \$15,000 for the vessel excise tax (VET) which affects boats valued at \$300,000 and above. An economic impact study conducted by the University of Maryland Environmental Finance Center (EFC), which can be found in Appendix 3 of this report, indicated that for the two and a half years the cap has been in place, it appears the cap has spurred sales of higher-end vessels. EFC economists have stated that to be statistically significant, five years of data would be required to make a definitive statement on the effectiveness of the tax cap. Multiple articles in respected trade journals also point to a significant turnaround in the boating industry.

A concerted effort by Maryland agencies must be undertaken to ensure that momentum gained by the recovering economy is maintained to ensure that the vital role boating plays in the State’s economy and tourism remains at a high level. Maintenance of the waterways and public boating facilities is imperative to the economic health of the boating industry and supporting businesses.

In spite of these positive indicators, the WIF has lagged in developing a sufficient level of revenue to serve counties and municipalities in need of grant funds to create or improve boating infrastructure throughout the State. While the cap seems to have spurred high-end boat sales, this has not offset the \$588,000 loss of vessel excise tax that would have been collected were the cap not in place. However, SB 90 reinstated the distribution of motor fuel tax to the WIF, and these funds have helped mitigate the lost VET.

As part of the effort to prepare this report, a survey of boat owners with vessels valued at over \$100,000 was conducted to determine what motivates boaters to register their boats in a particular state, the results of which can be found in Appendix 4. Factors such as access to cruising waters, scenery, quality of the environment, quality of private marinas and boatyards, and proximity to their home were of far greater influence in their decision making. It was found that while this universe of owners was keenly aware

of the taxes to be paid; this expenditure was not a key driver in their choice to register in Maryland.

All states vying for recreational boating dollars are looking for ways to remain competitive and make their destination the most attractive to boaters; yet, it is important to note that only Maryland has created a Waterway Improvement Fund. No other east coast state funds boating infrastructure construction, repair, or dredging.

The following recommendations are the product of a comprehensive examination of the boating industry by the Task Force:

- Keep the VET tax cap of \$15,000 in place and at the end of fiscal year 2018 conduct an economic analysis using five full years of data to have a more complete analysis of the effect of the cap on vessel sales and registrations.
- DNR should work with the Maryland General Assembly to adjust vessel title and registration fees to account for program costs and inflation and avoid issuance of documents at a fiscal loss to the State. This would free up additional WIF funds from being used to support overhead costs incurred to fund Licensing and Registration and other DNR Units that could then be used to support additional grants to counties and municipalities.
- DNR should work with the Maryland General Assembly to propose non-powered vessels pay the one-time excise tax at the point of purchase in place of the general sales tax now being collected.
- The Maryland General Assembly should restore the \$2.2 million that had been transferred to the General Fund from the WIF in fiscal year 2015.
- DNR should continue to support Executive Order 13508 regarding public access in the Chesapeake Bay Region and encourage counties and municipalities to pursue WIF grants to enhance and expand investment in infrastructure that serves transient boaters including boat ramps and temporary docking facilities.
- DNR & DBM should coordinate with the Army Corps of Engineers to expand the definition of commercial waterways to include marinas, boatyards and other water-dependent entities to expand the opportunity for federal dredging funds.
- DNR should coordinate a public awareness campaign to increase visibility of the Waterway Improvement Grant Program emphasizing the impact of the important grant-supported work being done in conjunction with counties and municipalities.

- DNR should examine its internal policy of directing Waterway Improvement Fund revenue to other DNR Units for the purpose of paying for operating costs that should be funded by General Funds. Specifically, special funds should be restricted to the purpose of that fund; supporting and enhancing Maryland's waterways.
- DNR should coordinate a working group, through its Working Waterfronts Program, to encourage the development of boatyards, marinas, and shore-side attractions for transient and Maryland commercial and recreational based vessels. Additionally, DNR, DBM and other State agencies should support the protection of waterfronts similar to the Baltimore Maritime Industrial Zoning Overlay District Study (MIZOD) and the Annapolis Maritime Industry Preservation Analysis.
- DBED/Maryland Office of Tourism Development should coordinate a comprehensive tourism and marketing strategy for boating and water-based tourism activities.

Introduction

Recreational boating is an important contributor to the U.S. economy, generating over \$35 billion in direct sales of product and services annually. In Maryland, it is a \$2 billion industry. The trades that support the building, repairing, and storing of the vessels have grown into a substantial industry in the State that goes beyond the more than 20,000 jobs it supports. The industry is part of the very fabric that defines Maryland.

The boating industry in Maryland is made up of many small businesses that range from boat sales to marinas to riggers to engine repair facilities. Marine businesses are subject to fluctuations in the economy because boaters spend much less on boats and boating in poor economic times. The industry works diligently to grow boating in the State and regularly supports efforts to promote new boaters as well as attract additional existing boaters to the State.

Registration of boats in Maryland has declined from a peak of 208,000 in 2005 to 182,000 in 2014, mirroring a national trend. In an effort to attract more boats and bolster the marine trades in Maryland, Senate Bill 90 established an excise tax cap of \$15,000 for boats with a value exceeding \$300,000. For example, a vessel valued at \$400,000 would pay \$15,000 rather than the \$20,000 that would have been collected in the absence of the cap. The bill also restored an allocation of 0.5% of motor fuel tax monies to the WIF; the previous 0.3% allocation ceased in 2007.

Maryland is a highly desirable state in which to boat, due to its 2,630 square miles of protected waters, over 3,000 miles of shoreline, central location, limited exposure to hurricanes, and the number and quality of marinas. However, from a tax perspective, Maryland faces significant competition from other East Coast states such as: Delaware, where no tax is in place; Virginia, where there is no use tax, sales tax is capped at \$2,000, and an annual personal property tax is collected; and, North Carolina where tax on boats is capped at \$1,500. New York has capped their tax at 4% on the first \$230,000,

No other state in the eastern U.S. operates a fund that specifically supports boating infrastructure construction, repair, or dredging

plus local taxes; and, New Jersey is currently considering the reduction of vessel sales tax to 3.5%.

All of the states vying for recreational boating dollars are looking for ways to remain competitive and make their destination the most attractive to boaters; yet, it is important to note that only Maryland has created a Waterway Improvement Fund (WIF). No other eastern state funds boating infrastructure construction, repair, or dredging.

The WIF was established by the Maryland General Assembly in 1965 to finance projects and activities which promote, develop, and maintain Maryland's boating infrastructure and waterways for the benefit of the general boating public in cooperation with federal, state, and local governments. Since its inception, the WIF has been essential in financing projects and has completed over 4,700 boating related grant projects valued at approximately \$321 million. Essentially, it serves as the "Transportation Trust Fund" for the boating public. WIF revenues are derived from the one time 5% vessel excise tax that is paid on the value of the vessel at the time of initial registration for use on Maryland's waters. All documented and state numbered vessels with primary operations in Maryland are subject to the vessel excise tax. The WIF does not receive any General Funds.

The importance of the WIF grants is not limited to the improvement of boating infrastructure but also the impact to the State's economy. The University of Maryland Environmental Finance Center has estimated that the \$6 million of grants issued in FY-16 will have an overall impact of \$11.2 million to the State's economy.

Senate Bill 90 also created a Boating Enhancement Task Force (Task Force) to consider options for:

- raising Waterway Improvement Fund revenues;
- developing incentives to encourage boats to register in the State and use marinas and boatyards for recreation, repair, and outfitting in the State; and,
- assessing the costs and needs of maintaining and improving public boating infrastructure and boating safety.

This report summarizes the Task Force's findings on these issues, provides background information on the Fund, suggests additional revenue options, and points to recent developments and boating trends that may require additional capital funding.

The Waterway Improvement Fund

Background

The Chesapeake Bay and Maryland's other waterways are known throughout the United States and abroad as one of the best locations for recreational boating. With over 182,000 registered vessels principally using Maryland waters as of June 30, 2014, thousands of visiting boaters, and an estimated 135,000 undocumented, non-motorized (paddle) craft, boating is a very popular activity throughout the State.

In 2007, the University of Maryland estimated in-state spending by boat owners at more than \$2 billion and supporting 35,000 jobs. In 2012, the National Marine Manufacturers Association estimated [boating's economic impact](#) in Maryland at \$2.4 billion,¹ making the boating industry a major factor in the State's economy. It is a priority of DNR to support boating safety, improve upon and increase boating access, enhance the quality of the recreational boating experience, and support the economic viability of the recreational boating industry.

State funded public boating facilities and public navigation channels are essential for the boating industry and enable local commercial watermen to serve their customers and perform their work related activities. The WIF is critical in that it is the only source of State funding that supports public boating access sites and the associated dredging that ensures Maryland's waterways will remain both safe and accessible to local and transient boaters.

The ability to support dredging activities is even more essential given that the U.S. Army Corps of Engineers (ACOE) can no longer maintain federal shallow water channels in Maryland. To meet the statutory requirements within their budget, the ACOE uses 1 million tons of commercial cargo as a threshold for dredging a waterway. In general, this limits ACOE activity to the main channels leading to the Port of Baltimore and the Wicomico River. Without reliable, safe channels and public boating facilities, local marine related business and watermen could lose customers and associated income, resulting in a loss of jobs.

¹ 2012 Boating Economic Impact Study. National Marine Manufacturers Association.

WIF Revenue Streams and Funding Trends

Historically, there were two sources of WIF revenues: the 5% vessel excise tax (VET) paid on newly registered vessels primarily operating in Maryland waters and 0.3% of the State Motor Fuel Tax. In 2007, the motor fuel tax revenue to the WIF was redirected to the Transportation Trust Fund, but Senate Bill 90 restored funding to the WIF at 0.5% in 2013. The Fund also receives some limited additional income from repayments on outstanding tax district loans, boat tax violation penalties/interest, and land rent which totals approximately \$800,000.

The VET rate has traditionally been consistent with the Maryland sales tax percentage. However, the VET percentage was not raised when the Maryland sales tax increased from 5% to 6% in 2007.

The Waterway Improvement Fund does not receive any revenue from boat registration fees.

The Fund does not receive revenues from Maryland boat registration fees. Those fees go to the State Boat Act Fund that is used primarily for boating safety under the leadership of the Natural Resources Police.

What Constitutes Principal Operation?

A vessel establishes principal operation in Maryland when it is used in the State in a calendar year more than any other single jurisdiction.

A vessel duly registered in another jurisdiction may enjoy Maryland waters for a cumulative total of 90 days in a calendar year without incurring a vessel excise tax liability. A vessel may remain longer than 90 days as long as the total days in Maryland waters are less than the total days spent in the jurisdiction of principal operation.



VET revenues have varied greatly over the years and are heavily influenced by national economic factors such as home values, boat loan interest rates, fuel prices, and consumer confidence. In recent years, VET revenues for the Fund have ranged from \$15 million to \$31 million depending on the state of the economy, as demonstrated in Figure 1 below. State motor fuel tax revenues, however, have been a steady source of WIF revenue, averaging \$1.5 to \$1.75 million per year, and reaching \$2.7 million after the increase to 0.5% in 2013.

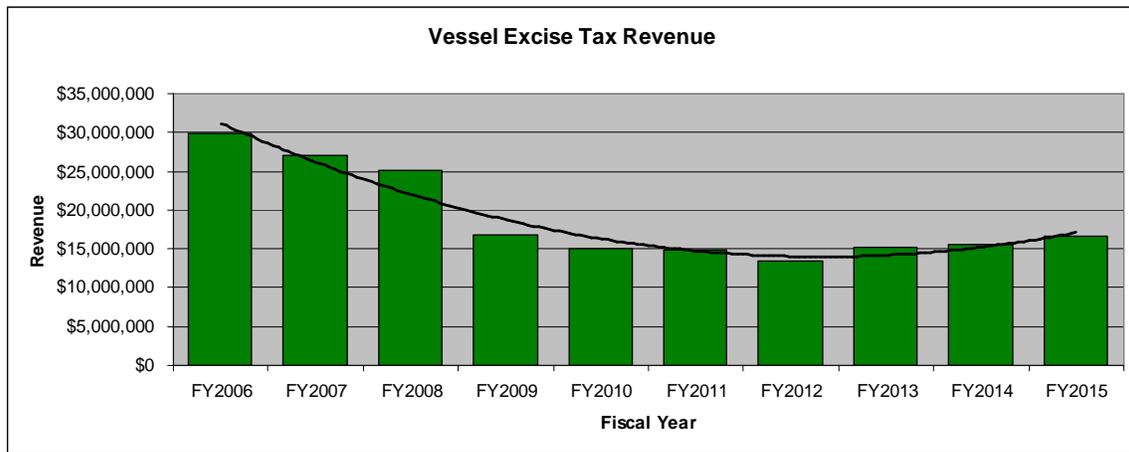


Figure 1: Maryland Vessel Excise Tax Revenue from 2006 to 2015

Between 1991 and 2004, \$48 million was transferred from WIF to the General Fund to help offset statewide budget shortfalls, resulting in the elimination of 790 grant projects. The Budget Reconciliation and Finance Act (BRFA) for 2010 and 2011 transferred \$17,539,000 from WIF projects to the General Fund. However, all of these funds were replaced with General Obligation Bonds as per the Maryland Consolidated Capital Bond Loan for 2010 and 2011, allowing projects to proceed. The 2015 BRFA transferred \$2.2 million to the General Fund without replacement.

As shown in Figure 2 below, registration of boats in Maryland has declined from a peak of 208,000 in 2005 to 182,000 in 2014. In an effort to attract more boats and bolster the marine trades in Maryland, Senate Bill 90 established a vessel excise tax cap of \$15,000 for boats valued at over \$300,000.

The ten year trend in Maryland mirrors the national trend, and the resulting reduction in sales and registrations has led to a 50% reduction in VET revenues. This decrease directly correlates with the decline of the State and U.S. economies.

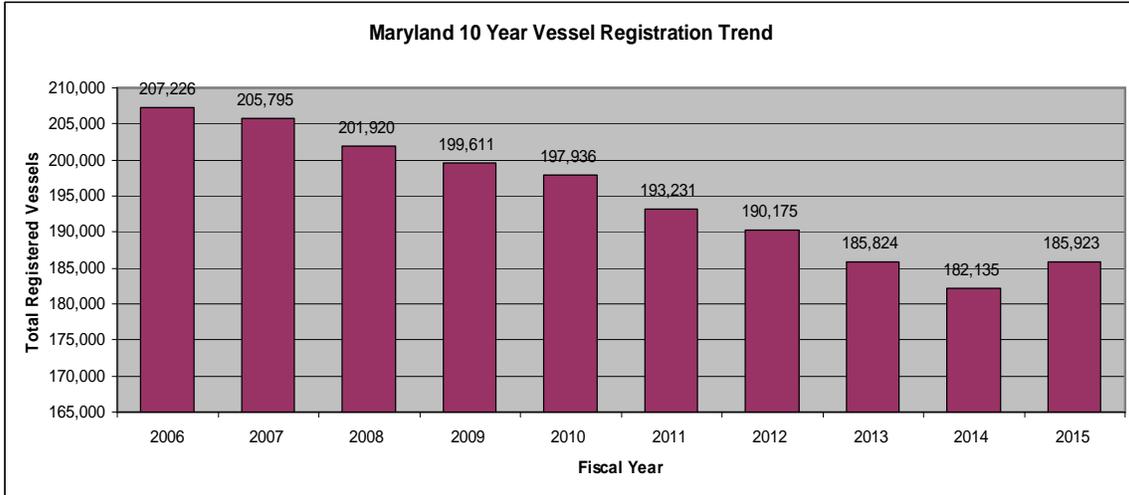


Figure 2: Maryland Vessel Registrations from 2005 to 2015

Similar declines have occurred in neighboring states, as Figure 3 indicates.

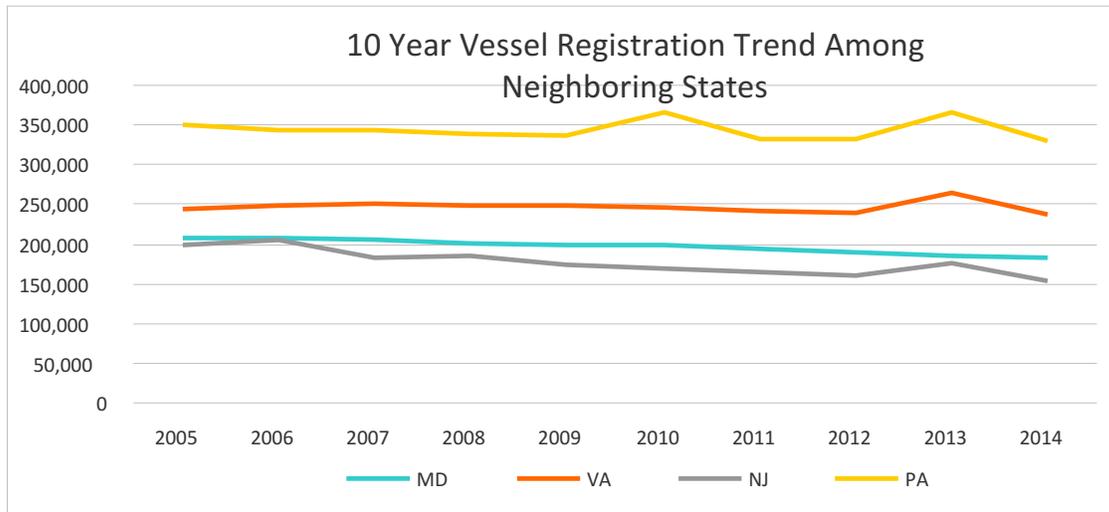


Figure 3: Maryland Vessel Registration Trend Compared to Neighboring States 2005 to 2014

It is important to note, that the trend of declining boat sales, and subsequently new registrations, should not be correlated to a reduced need to invest in boating infrastructure. Existing, and often long-neglected, infrastructure must be maintained and replaced to support the boating economy. Upgrades to meet ADA guidelines and enhancement and expansion of existing resources to serve anticipated future needs will be required over time as new registrations eventually trend back up.

Financial Demands on the WIF

The WIF is used by DNR to support important projects and services within the Department that are critical to the overall boating environment and required by statute. These funds are used to complete boating related planning and regulatory activities, project management, and construction, as well as provide technical assistance to local governments for boating related projects and support for the Natural Resources Police marine operations.

Capital and Operational Demands

The WIF supports both operating and capital budgets at DNR. The total expenditures for the operating budget at the Department attributed to the WIF for FY 2015 is \$10,543,714. Figure 4 below summarizes WIF funding that supports DNR operations. These encompass a number of Departmental Units, as well as the Waterway Improvement Grants program.

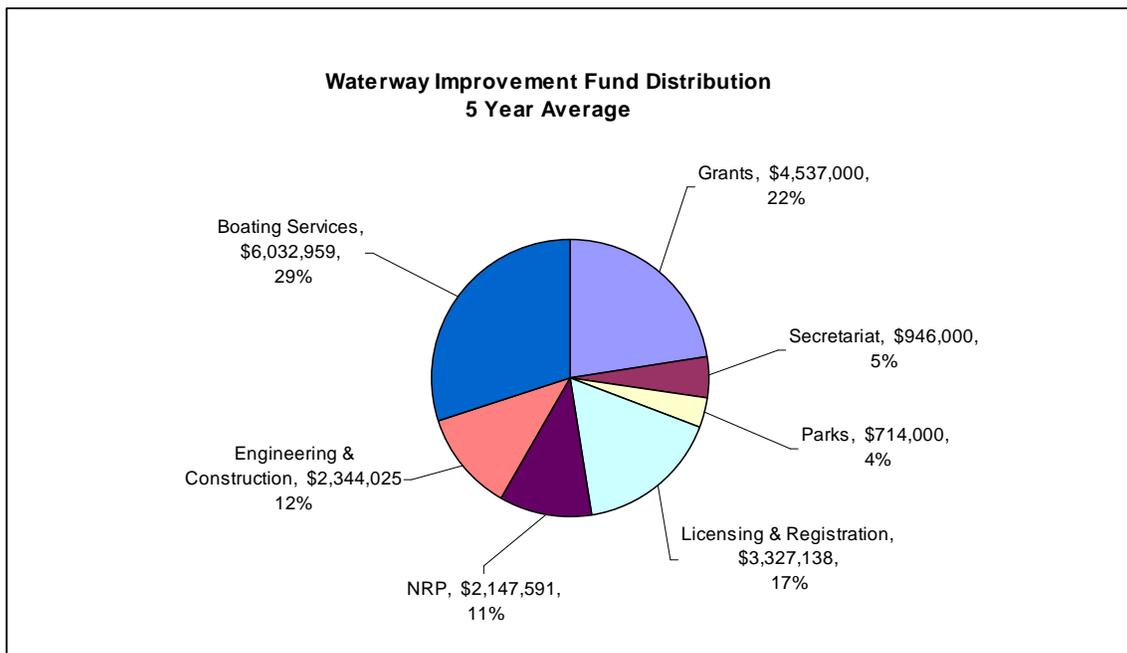


Figure 4: Distribution of Waterway Improvement Funds (five-year average)

Boating Services – DNR’s Boating Services provides critical support to both commercial and recreational boating operations in the State. WIF funds specifically sustain hydrographic operations, boating implementation, facilities and regulations, and miscellaneous grant programs:

- **Hydrographic Operations:** services 3,000 regulatory buoys, markers, and signs critical to boating safety and the protection of fisheries and aquatic resources, charting, field surveys for oyster leases, and winter ice breaking activities.

- **Boating Implementation:** administers 459 grant projects valued at \$23.1 million, completing project assessments and site inspections, reviewing and approving project plans/specifications for infrastructure and dredging, and providing technical assistance to government agencies and the public.
- **Clean Waterways, Facilities and Regulations:** assesses statewide waterway use and site specific boating facility plans, completes boating related reports, directs boating regulatory processes, staffs the State Boat Act Advisory Committee, and oversees the Ft. Washington and Somers Cove Marinas.
- **Boat Tax Enforcement:** investigates vessels physically located in the State of Maryland for principal operation in Maryland waters and the proper payment of vessel excise tax.

DNR Engineering and Construction – WIF funds for engineering and construction needs include:

- **State projects** where engineering staff manage Waterway Capital Improvement Projects located on DNR lands.
- **Marine Construction Crew** which serves as a dedicated in-house crew completing public boating access projects on State and local lands and removing debris in State waters that is hazardous to boaters.

Natural Resources Police – The WIF supports Natural Resource police officers assigned to marine operations including patrols, boating safety, resource conservation, and search and rescue. This level of support is legislated at \$2.1 million annually.

Licensing and Registration – Responsible for the collection of special funds from the sale of recreational hunting and fishing licenses, the issuance of commercial fishing licenses, the titling and registration of boats, the issuance of documented vessel decals, the sale of off-road vehicle permits, and collection of the vessel excise tax.

Maryland Park Service – The WIF funds boating facilities within Maryland’s State Parks.

Office of the Secretary – Providing general administrative support functions such as the Office of Communications, Information Technology, fiscal services, and the Office of the Attorney General. This level of support is legislated at \$750,000 annually.

WIF Grant Funded Projects

Perhaps most importantly, the WIF provides financial support to local governments, the Department of Natural Resources, and federal agencies in the form of grants and/or loans for a wide variety of capital projects and services for the boating public. More specifically, the WIF finances projects and activities that benefit the general boating public including:

- Marking channels and harbors and establishing aids to navigation in cooperation with the U.S. Coast Guard;
- Clearing debris and obstructions from navigable waters of the State;
- Dredging channels and harbors, and constructing jetties and breakwaters in cooperation with the U.S. Army Corps of Engineers;
- Constructing, maintaining, and renovating new and existing marine facilities beneficial to the general boating public (boat ramps, piers, landings, and parking);
- Funding marine operations for the Natural Resources Police;
- Installing marine sewage pump-out stations to maintain and improve water quality;
- Improving, reconstructing, or removing bridges, drawbridges or similar structures over or across water if those structures delay, impede, or obstruct the boating public;
- Evaluating water oriented recreation needs and capacities of Maryland waterways and developing comprehensive plans for waterway improvement projects;
- Providing boating information and education;
- Constructing marine facilities and acquiring vessels/equipment for marine firefighting, enforcement, first aid and medical assistance, and communications for promoting safety of life and property and general service to the boating public; and,
- Implementing boating-related shoreline erosion control projects.

Through the 1990's until 2009, DNR received an increasing number of grant requests, culminating in a high of \$36 million in funding requests (FY 2009). The increase was largely due to a steep rise in the need for dredging local boating access channels. In addition, there was a significant increase in funding requests to upgrade older existing public boating facilities in need of structural upgrades and site modifications in order to meet increased user demands and ADA requirements. DNR aggressively pursues federal U.S. Fish and Wildlife boating access and Clean Vessel Act grants, both of which require state matching funds.

The Department relies almost exclusively on annual VET revenue attainment to fund WIF grant and loan projects. Historically, the WIF capital budget has been determined

by the balance of funds that remain after the Department’s operating costs have been satisfied. As such, the capital budget has been significantly impacted by the 50% reduction in VET revenues. The rapid decline in funding available for capital projects occurred due to a significant decrease in VET revenues, as well as a reduction in the reserve balance of the WIF.

Overall, demand for WIF grant funds continues to exceed the amount of funding available for State and local boating access and dredging projects as shown in Figure 5. Over the last five years, the Department has been able to support less than 50% of the grant requests for projects like those listed above. DNR has been able to fund just 26% of the dollar amount requested in the same time frame. Revenue enhancements to the WIF are needed to provide a funding level sufficient to maintain Maryland’s boating access, waterway navigability, boating safety, and environmental boating projects. The Department estimates that the annual grant funding needed to support the demand for boating related capital projects in Maryland is approximately \$10 million.

Maryland’s Department of Natural Resources estimates that the funding needed to support the demand for boating related projects in Maryland is approximately \$10 million annually.

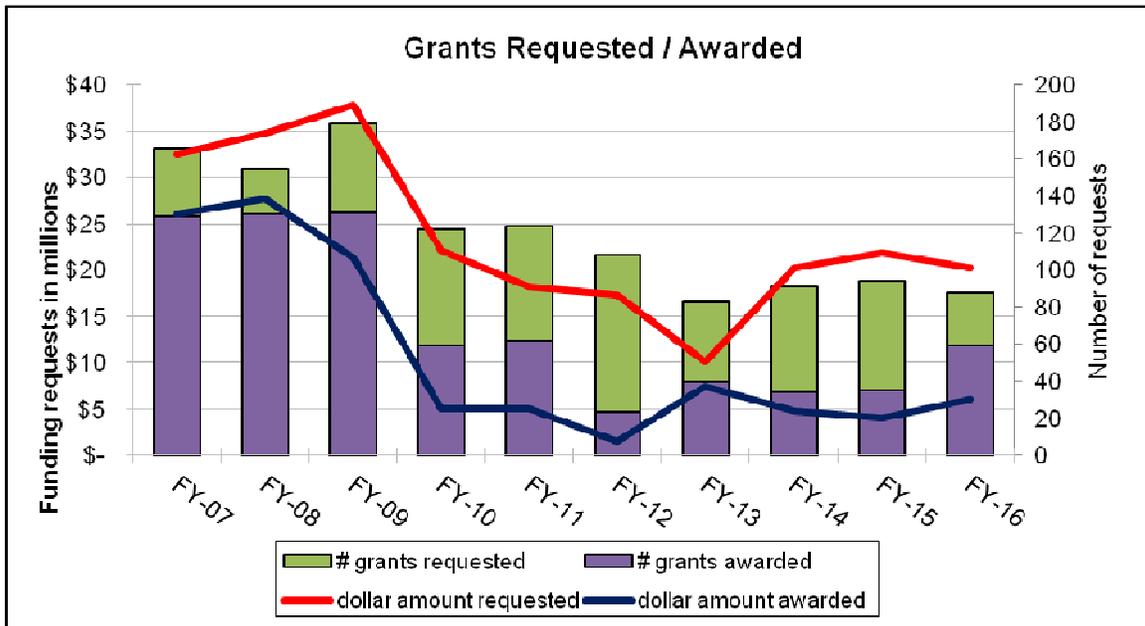


Figure 5: Number and Amount of Grant Requests vs Actual Awards

Grant Project Prioritization

Projects found to be eligible for State assistance from the WIF may receive funds in the form of grants or loans as described below. The type of funding selected for a project is dependent upon the scope of the project and statutory guidelines, as well as to what degree the project benefits the general boating public. The funding categories for WIF Projects are as follows:

- \$5,000 Small Project Grants (soft launches, portable toilets, small maintenance grants)
- 100% State Grants less than \$100,000
- 100% State Funds for Projects on DNR Lands and for Select Navigation
- Projects Matching Funds (50/50)
- 25 Year Interest Free Tax District Loans

Grant Funding Policies

DNR provides 100% State funds only for dredging or navigation projects that directly serve a publicly owned public boating facility, for projects that support major public thoroughfare channels, or for projects cost shared with the U.S. Army Corps of Engineers. These are the projects that have historically provided the greatest benefit to the general boating public.

All other dredging or navigation projects, including those that primarily serve local communities, are funded through 50/50 matching state grants, tax district loans, or local special benefit districts (privately financed loans) depending on the level of benefit that the project provides to the general boating public.

Dredging or navigation projects that benefit publicly owned boating facilities, major public thoroughfare channels, or U.S. Army Corps of Engineers projects, or have multiple funding sources that require less than 50% State matching funds are a top priority. This provides funding to those projects that provide the greatest benefit to the boating public and maximize leverage of limited State funds.

DNR provides 100% State grants where the total project costs are below \$100,000 to the extent of available funding.

DNR provides matching State grants to acquire fire and rescue boats and equipment to the extent of available funding. This policy supports the existing statute and is important to boating safety.

DNR considers reimbursing mitigation costs only if the mitigation is completed and is required by federal/state/local regulatory agencies as part of the overall project. Any required stormwater retrofits are the responsibility of the project sponsor.

Boat counts are used when appropriate to help determine the level of benefit that a project will provide to the general boating public.

Local jurisdictions that elect to charge a countywide fee for use of their public boat ramps/landings or to use just a stand alone boating facility (individual ramp or boat slips) will be limited to a single \$50,000, 100% State grant during any fiscal year (depending on availability of funds). Anything beyond that amount will require a 50/50 matching fund grant. This policy does not apply to facilities that only charge a user fee to out-of-state boaters. These county applied fees help defray maintenance costs for the county.

Five Year (2011-2015) Average of Vessel Excise Tax Paid and WIF Grants Received by County			
County	Number of Registered Boats FY 2013	Vessel Excise Tax Paid	WIF Grants Received
Somerset	1,818	\$33,749	\$271,610
Dorchester	2,982	\$104,923	\$214,400
Worcester	4,892	\$223,783	\$307,200
St. Mary's	8,566	\$336,161	\$412,000
Wicomico	3,484	\$97,256	\$104,400
Allegany	2,072	\$27,584	\$26,800
Queen Anne's	6,296	\$384,160	\$340,300
Kent	2,829	\$138,584	\$104,700
Caroline	2,155	\$56,036	\$35,000
Anne Arundel	34,012	\$2,791,574	\$1,192,650
Cecil	5,744	\$271,615	\$115,860
Washington	4,018	\$90,541	\$34,800
Talbot	5,282	\$436,801	\$144,400
Baltimore	19,753	\$946,842	\$270,460
Prince George's	5,794	\$225,253	\$59,560
Calvert	7,157	\$351,072	\$78,538
Frederick	6,068	\$199,627	\$29,800
Garrett	2,058	\$54,744	\$8,000
Baltimore City	3,454	\$278,118	\$38,190
Harford	8,743	\$466,123	\$58,800
Charles	5,406	\$204,112	\$21,500
Montgomery	9,817	\$740,833	\$7,600
Carroll	4,713	\$161,294	No eligible projects
Howard	4,420	\$369,098	In these counties
Out Of State Vessels		\$3,630,592	
State Projects			\$657,632
Total	161,533	\$12,620,476	\$4,534,200

Figure 6: Five Year Average of Excise Tax Paid & Grants Received by County

Note: Out-of-State indicates vessels registered in Maryland whose owners live outside of Maryland.

Statewide indicates projects that are undertaken on Maryland owned property.

Project Selection Criteria

The following project criteria are used by DNR in evaluating and ranking proposed projects that are eligible for grants through the Waterway Improvement Fund. Projects are prioritized based on the following:

- Expand or improve public boating access;
- Impact on boating safety;
- Project cost/benefit;
- Status of regulatory permits;
- Projected expenditure rate;
- Continuation of a current project;
- Impact on boating congestion;
- Sustainable building elements; and
- State and/or local priority

Comparing Maryland to Its Neighbors

The tax associated with acquiring and operating four different sizes of boats, see Figure 7 below, was examined to compare burden imposed by Maryland and neighboring states on boat ownership in the region. This was based on data in the [Boat U.S. website](#), as well as websites for taxation, boat titling and registration, and motor fuel tax and refunds.

Boat	Boat Price	Length
Bayliner	\$17,200	16'
Calcutta	\$109,000	26'3"
True North Express	\$345,000	35'9"
Tiara (diesel)	\$903,700	45'6"

Figure 7: Four "Model" Boat Types for the purposes of comparing tax burdens across states

The first tax is generally on acquisition, and is only paid at the time the boat is purchased, either new or from another owner. In Maryland this is the Vessel Excise Tax. How neighboring states address initial acquisition varies relatively broadly as shown in Figure 8 below.

Taxes on acquisition of several boat sizes in Maryland and neighboring states						
State	Boat Sales & Use Tax Rate:	\$17,200 boat	\$109,000 boat	\$345,000 boat	\$903,700 boat	Notes:
MARYLAND	5%	\$860	\$5,450	\$15,000	\$15,000	Excise tax is used to fund the WIF, capped at \$15,000.
PENNSYLVANIA	6%	\$1,032	\$6,540	\$20,700	\$54,222	Tax is 7% in Allegheny and Philadelphia Counties
VIRGINIA	2%	\$344	\$2,000	\$2,000	\$2,000	\$2,000 Maximum Sales Tax; State decal for documented vessels is available upon request.
DELAWARE	0%	\$128	\$814	\$2,576	\$6,749	There is a Gross Receipts Tax that will increase the cost of vessels purchased from dealers (used here)
NEW JERSEY	7%	\$1,204	\$7,630	\$24,150	\$63,259	Vessel sales tax is proposed to be capped at 3.5%; a vote is scheduled for late Sept 2015.
NORTH CAROLINA	3%	\$516	\$1,500	\$1,500	\$1,500	Maximum tax due is \$1,500

Figure 8: Comparative Vessel Acquisition Tax Burden in Maryland and Neighboring States

Additional fees associated with vessel use and operation include annual registration, fuel taxes (which are refunded in part in some states), and in some cases personal property taxes.² Adding all of these costs together, dividing the tax on acquisition by ten years, treating the other categories as annual costs provides an estimated total cost. Dividing this total cost by the assumed boat value provides “tax cost” as a percentage. Based on this measure, as demonstrated in Figure 9 below, Delaware has the lowest tax costs for boats, and Virginia (using Arlington County program parameters) has the highest. Maryland is third highest of the six states examined.

Total tax cost of ownership for several boat sizes in Maryland and neighboring states				
State	Total Cost of Ownership			
	\$17,200 boat	\$109,000 boat	\$345,000 boat	\$903,700 boat
MARYLAND	\$113	\$623	\$1,662	\$1,512
PENNSYLVANIA	\$154	\$771	\$2,302	\$5,448
VIRGINIA	\$905	\$5,667	\$17,472	\$45,400
DELAWARE	\$23	\$111	\$288	\$725
NEW JERSEY	\$149	\$856	\$2,560	\$6,406
NORTH CAROLINA	\$85	\$203	\$203	\$203
State	Percent of cost			
	\$17,200 boat	\$109,000 boat	\$345,000 boat	\$903,700 boat
MARYLAND	0.66%	0.57%	0.48%	0.17%
PENNSYLVANIA	0.89%	0.71%	0.67%	0.60%
VIRGINIA	5.26%	5.20%	5.06%	5.02%
DELAWARE	0.13%	0.10%	0.08%	0.08%
NEW JERSEY	0.87%	0.79%	0.74%	0.71%
NORTH CAROLINA	0.49%	0.19%	0.06%	0.02%

Figure 9: Comparative Vessel Acquisition Tax Burden in Maryland and Neighboring States

Note: None of the six states title or register non-motorized vessels.

Impact of \$15,000 Tax Cap

Based on the economic analysis prepared by the University of Maryland Environmental Finance Center, (Appendix 3) the \$15,000 tax cap on the vessel excise tax enacted in July 2013 appears to have had the following effects which are also demonstrated in Figure 10 below:

- The total loss in VET revenue due to the tax cap is approximately \$588,000 over two calendar years (2013 and 2014).

² Comparative tables of these taxes across Maryland and neighboring states can be found in Appendix 2.

- The growth in new registrations for vessels with a net purchase price of \$400,000 or greater was much stronger than expected, and is likely due to the excise cap. This increase in new registrations, however, was not enough to offset the loss in VET revenue as a result of the cap lowering the per-vessel tax collection.
- The cap’s impact on new registrations of vessels valued between \$350,000 and \$399,999 is mixed. After an initial drop in 2013, the analysis finds that the cap may have led to an increase in the number of new registrations in 2014. Again, the net impact on VET revenue is still estimated to be negative.
- While the tax cap had a negative impact on VET revenue, the increase in new registrations does have a positive impact on the Maryland economy through increased boating activity.

The increase in new registration may have generated over \$1 million in direct spending in the Maryland economy with a multiplier effect lifting output to nearly \$2.5 million over two years.

According to the Environmental Finance Center, more fully assessing the impact of the \$15,000 tax cap will require at least five years of data (FY-13 through FY-18) to be statistically significant.

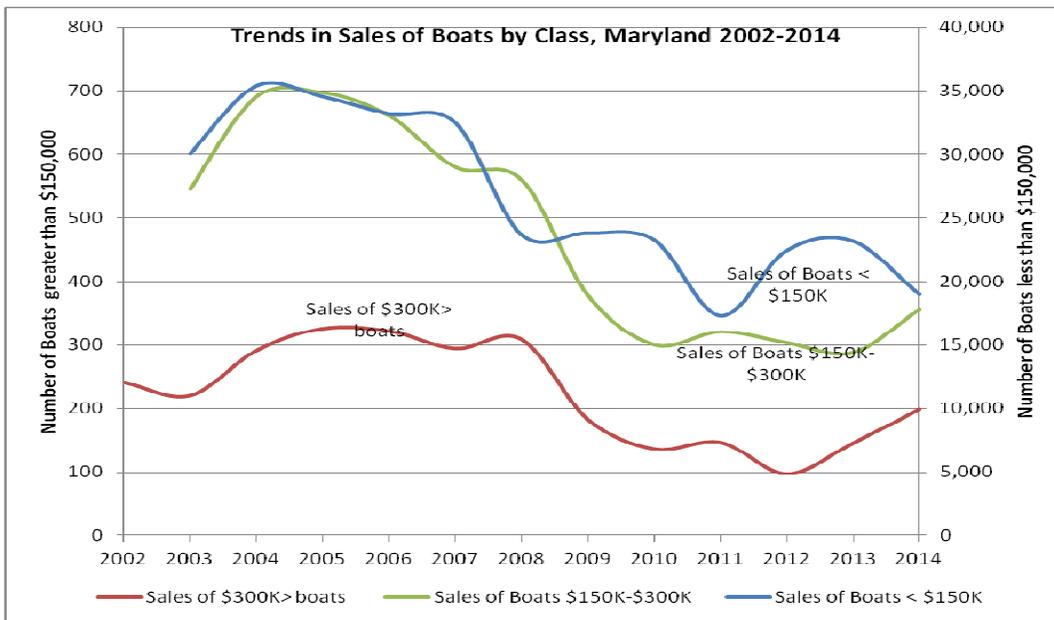


Figure 10: Trends in Boat Sales by Cost Class 2002 to 2014

Diversifying and Enhancing Revenue Sources

As previously suggested, the functions of the WIF and the services and programs it supports are critical to carrying out DNR's statutory mandates and the support of the boating industry. Creating a new, diverse revenue portfolio for the WIF will better enable DNR to meet its statutory mandates and ensure that Maryland's boating industry and opportunities remain competitive with other Atlantic coastal states.

This section of the report describes several potential funding opportunities to increase revenues to the DNR. While some of these fees and the revenue created by them do not directly contribute to the WIF, the increased funds available to DNR may reduce the reliance on the WIF for operational funding. These include establishing graduated boat registration fees to support additional marine enforcement; adjusting vessel titling fees; and, requiring use decals for non-motorized vessels. Other opportunities, including directing U.S. Coast Guard Boating Safety funds to WIF projects and considering alternative excise tax scenarios, would directly increase flow of revenue to the WIF. An examination of each follows.

Graduated Vessel Registration Fee

Currently, vessels sixteen feet or less with motors of 7.5 horsepower or less receive free registration decals from the Department, meaning that while these vessels benefit from the projects and services the WIF supports, they are not contributing to the fund. In addition, there is an administrative burden to DNR to process these registrations, the cost of which is not being recovered.

In fact, DNR issued an average of 14,125 "free" decals annually between 2010 and 2014. The Department conservatively estimates a \$10 per-decal cost to design, print, and mail renewal reminders, process renewal applications, and mail the free decal and registration card. This suggests an operating loss to the State to process these decals of approximately \$141,250 annually.

Updating Maryland's existing \$24 biennial boat registration fee, originally set in 1970s, offers a significant opportunity to enhance WIF revenues. Implementing an adjusted and graduated fee system, one that addresses vessels less than sixteen feet with motors of 7.5 horsepower or less which are currently a drain on the Department, could increase annualized revenues by an estimated \$7.51 million. Eleven of the fifteen Atlantic coastal states use a graduated vessel registration fee schedule.

Proposed Graduated Vessel Registration Schedule			
		Registration Schedule (Annualized)	Annual Total
	# Vess els		
≤ 16 feet & motor less than 7.5hp or less	29,164	\$12	\$349,968
≤ 16 feet	47,629	\$25	\$1,190,725
> 16 feet but less than 26 feet	88,991	\$50	\$4,449,550
26 feet but less than 40 feet	25,976	\$100	\$2,597,600
40 feet but less than 65 feet	4,176	\$200	\$835,200
65+ feet	88	\$300	\$26,400
Total Revenue			\$9,449,443
Additional Annualized Revenue (above FY 2012 level)			\$7,510,942

Figure 11: Potential Revenue Impact of a Graduated Annual Boat Registration

Increasing the Vessel Titling Fee

The fees for issuing a title when a vessel’s ownership changes or for issuing a duplicate title were set by law at \$2 in 1965 and have not been adjusted since to account for inflation or increased processing costs. Increasing the fee for vessel titling to \$15 would make the fee more in line with the actual cost of administration and processing associated with the transaction. Increasing the titling fee to \$15 would result in an estimated additional \$312,000 annually to State Boat Act funds.

Annual registration and titling funds are distributed to the State Boat Act Fund and are used primarily for DNR Natural Resources Police and several other purposes but not typically for the WIF even though paragraph (h) of the enabling legislation allows the use of funds for waterway projects as indicated below.

Maryland Department of Natural Resources Laws
 TITLE 8 - WATERS
 Subtitle 7 - State Boat Act
 Section 8-723 - State Boat Act Fund.
§ 8-723. State Boat Act Fund.

- (f) Use.- The Department shall use the Fund:
- (1) For the administration of this subtitle;
 - (2) To cover the costs of fulfilling the duties and responsibilities of the Department under this title; and
 - (3) For administrative costs calculated in accordance with § 1-103(b)(2) of this article.

(g) Investment earnings.- Any investment earnings of the Fund shall be credited to the General Fund of the State.

(h) Agreements to share cost of waterway projects.- Within the limits of funds available, the Department may enter into any agreement with the federal government, any municipality or other political subdivision of the State, or any private agency to share the cost of any development, construction, or improvement of waterways or of facilities determined to have beneficial value to the boating public.

(i) Expenditures.- Expenditures from the Fund may be made only in accordance with the State budget.

Adjusting Registration and Titling Fees for Inflation

The current fee schedule has not been changed for many years, so if the schedule were simply adjusted for inflation³ it would result not only in additional revenue but would provide adequate funding for the administration costs of issuing these documents.

Presently the Licensing and Registration Division operates at a loss due to the low cost of these documents.

Certificate Type	Current	2015 Value
Certificate of Title, (last changed 1965)	\$2.00	\$15.02
Replacement Certificate (last changed 1973)	\$2.00	\$10.66
Certificate of Number (last changed 1970s)	\$24.00	\$57.01
Dealer's annual license (last changed 1965)	\$25.00	\$53.97

Figure 12: Adjusting Existing Titling and Annual Boat Registration Fees

Inflation Adjusted Registration Schedule					
	2014 Quantity	Current	Revenue	Inflation Adjusted Value	Potential Revenue
Boat Dealer licenses	441	\$25	\$11,025	\$54	\$23,814
Titles	23,341	\$ 2	\$46,682	\$15	\$350,115
Registrations	80,514	\$24	\$1,932,336	\$57	\$4,589,298
Documented Use Decals	4,842	\$10	\$48,420	\$21.50	\$104,103
No-fee decals	13,595	0	0	\$10	\$135,960
Total			\$2,038,463		\$5,203,290

Figure 13: Potential Revenue Impact of Adjusting Existing Titling and Annual Boat Registration Schedule

³ Dept. of Labor, Bureau of Labor Statistics, Consumer Price Index

Requiring Use Decals on Non-motorized Vessels

Requiring use decals on the estimated 135,000 non-motorized paddle craft (kayaks and canoes) using Maryland waters offers additional revenue potential. Currently, these vessels are not required to have identification decals in Maryland. It is estimated that requiring these boats to obtain a decal in Maryland would generate an additional \$675,000 annually if a \$5 annual (\$10 biennial) fee is charged for these vessels.

Paddle craft owners would also receive safety and property security benefits from registering their vessels given that the Natural Resources Police and U.S. Coast Guard would be able to identify the owner of lost, stolen, or separated vessels, rather than having the expense of launching search and rescue operations. However, this benefit could also be achieved by better publicizing the voluntary Coast Guard ID sticker program which provides a free sticker to be placed in each paddle craft with the owner's name and contact information.⁴

If non-motorized boats were registered, Maryland would qualify for more funds from the U.S. Coast Guard State Recreational Boating Safety Program. Based on the FY 2013 allocations, the amount allocated by numbers of registered boats was \$35.0 million, for 11,900,167 registered U.S. boats, or \$3.01 per boat. The additional registrations would net Maryland \$406,350. However, if other states also registered paddle craft, the amount per boat would decline. Funds from the State Recreational Boating Safety Program do not increase the WIF since they are allocated within Maryland to the Natural Resources Police for their boating safety programs, and would not directly support facilities for paddle craft and other non-motorized boats.

Four other states require registration of paddle craft:

- Minnesota – \$10.50 registration, \$5 invasive species fee, \$8.50 initial service fee
- Michigan – \$ 5.00 registration
- Ohio – \$38.00 registration
- Iowa – \$12.40 registration for craft longer than 13 feet

Use of U.S. Coast Guard Boating Safety Funds.

The Sport Fish and Boating (Wallop-Breaux) Trust Fund was established in the Deficit Reduction Act of 1984 to improve funding to the states for the RBS program administered by the U.S. Coast Guard and the Sport Fish Restoration program administered by the U.S. Fish and Wildlife Service. The legislation provided that the two separate funds for those programs would become individual accounts under the single umbrella of the new Wallop-Breaux Trust Fund. Trust fund receipts consist of federal excise taxes attributable to motorboat and small-engine fuel use and on sport fishing equipment, along with import duties on fishing equipment, yachts and pleasure craft. The Boat Safety Account is funded solely from motorboat fuel taxes. The Sport Fish

⁴ More details on the Coast Guard ID sticker program can be found at <http://annapolisgaux.org/Paddlecraft/PaddleSmart.pdf>

Restoration Account receives a portion of the motorboat fuel tax as well as all other trust fund receipts. The State grant programs funded through Wallop-Breaux are excellent examples of "user pays/user benefits" since all monies deposited into the trust fund are paid by boaters and fishermen. No general tax revenues are involved.

The U.S. Coast Guard Office of Boating Safety allocates funds to state government. DNR has received \$14,947,823 over the last five years for an annual average of \$2,989,564. This revenue stream is used primarily for DNR Natural Resources Police not for the WIF even though the Coast Guard authorizes the use of funds for waterway projects as indicated below in bold below.

Federal funds provided for a state's boating safety program may be used for any of the following:

- *Providing facilities, equipment, and supplies for boating safety education and law enforcement, including purchase, operation, maintenance, and repair.*
- *Training personnel in skills related to boating safety and to the enforcement of boating safety laws and regulations.*
- *Providing public boating safety education, including educational programs and lectures, to the boating community and the public school system.*
- ***Acquiring, constructing, or repairing public access sites used primarily by recreational boaters.***
- *Conducting boating safety inspections and marine casualty investigations.*
- *Establishing and maintaining emergency or search and rescue facilities, and providing emergency or search and rescue assistance.*
- ***Establishing and maintaining waterway markers and other appropriate aids to navigation.***
- *Providing state recreational vessel numbering and titling programs.*

Alternative Vessel Excise Tax Rates

The Task Force examined a number of vessel excise tax options including the following:

Aligning the Vessel Excise Tax with the State Sales Tax

Traditionally, the VET has been in line with the State tax rate; however, when this was raised to 6% in 2007, the VET was not similarly adjusted. Based on existing total estimated boat sales, equalizing the vessel excise tax (5%) with Maryland's existing sales tax (6%) could raise an additional \$3.1 million or more for the WIF annually.

Reducing the Vessel Excise Tax for All Vessels to 4% with No Tax Cap

In an effort to spur growth of the boating population throughout the State, reducing the excise tax from 5% to 4% may provide the stimulus across all values and types of vessels. Using 2015 as a baseline, if all vessels registered in fiscal year 2015 were subject to 4% excise tax, the Waterway Improvement Fund revenue for fiscal year 2015 would be reduced by approximately \$325,000.

Note: this calculation does not take into account any impacts a 4% excise tax with no cap would have on the total number of registrations or on the value of boats purchased.

Raising the Vessel Tax Cap to \$20,000 (affecting vessels valued at \$400,000 and greater)

In the Vessel Excise Tax Cap Economic Impact Report for 2015, it was determined that the price point for the cap’s greatest impact was on vessels valued at \$400,000 or more. This increase of new vessel registrations had a positive impact on the economy across the spectrum. Using fiscal year 2015 as a baseline, if the cap was raised to \$20,000, the Waterway Improvement Fund revenue would increase by approximately \$753,000.

Boating Excise Tax Revenue Adjusted for Several Tax Rates and Caps

The table below summarizes estimated excise revenue for FY15. It uses the number of new registrations observed in FY15 as the base for calculating VET revenue changes under number of alternative VET rates and caps.

The estimated VET revenue is indicative. Analysis of how the \$15,000 cap affected new registrations suggests that the total number of registrations does change in response to the VET cap. It is reasonable to expect that a change in the VET rate would also induce some change in registrations decisions. In principle, a lower excise rate and/or higher cap should result in more new registrations relative to current scenario of 5% excise with a \$15,000 cap.

Scenario	Excise Revenue	Affected by the Cap	
		Number	Percent
6%, no cap	\$21,736,000	--	--
5%, no cap	\$18,113,000	--	--
5%, \$20,000 cap	\$16,289,000	82	0.34%
5%, \$15,000 cap	\$15,771,000	133	0.56%
5%, \$10,000 cap	\$14,858,000	260	1.1%
4%, no cap	\$14,491,000	--	--

Figure 14: Comparing Alternative Excise Scenarios based on 23,834 registrations (present state in red)

Reduced Tax Rate or Elimination of Tax for a Fixed Period of Time

A pilot initiative can also be explored that would allow for a temporary reduction in the VET during months when historic boat sales are the lowest, such as January and February. The purpose would be to see if such an action would spur boat sales during that time period which could potentially increase overall WIF revenue attainment.

Extending the Excise Tax to Non-motorized Vessels

In addition, non-motorized boats, such as canoes, kayaks, stand-up paddleboards, and non-powered sail and rowing boats could contribute to the cost of related boating facilities which are often funded by the WIF if the existing 6% sales tax were replaced by

an excise tax. While this would put some additional burden on retailers of these vessels who do not sell motorized vessels, many of them who deal with larger boats already account for excise tax in their operation.

Using an estimate of 135,000 non-motorized boats in the State, and assuming that sales equal 5% of this amount per year at an average sales value of \$1,000, this action could provide an additional \$340,000 in funds for the WIF each year.

As an alternative, a one-time “waterway access enhancement” fee could be assessed at the time of purchase. This revenue would be limited to the creation and improvement of launches that accommodate paddle craft.

Outreach and Promotion of Broader Boating Community Engagement on Maryland Waterways

Regardless of what collection of revenue generators are ultimately selected to enhance capitalization of the WIF, there remains a clear and critical need for expanded and cohesive outreach and engagement strategy that communicates the significance of boating to the State and the value of investing in supporting infrastructure, as well as the benefits of registering in the State and using Maryland marinas and boatyards for recreation, repair, and outfitting of vessels.

With regard to tourism marketing, the Maryland Office of Tourism Development, local Destination Marketing Organizations and the private sector continue to promote Maryland’s waterways, activities, and attractions through a variety of media including television commercials, radio spots, the VisitMaryland.org website, social media, and e-newsletters, as well as print material, including travel guides, destination guides, brochures, and maps.

Included in the marketing efforts are:

- The Chesapeake Bay, and other Maryland waterways, as unique and beautiful places to visit.
- Promotion of all boat activities on the waterways of Maryland, including motor boating, sailing, kayaking, personal watercraft, and stand up paddleboards.
- Marketing of water-based activities including water trails, water-side culinary experiences, and outdoor recreation activities on and along Maryland’s waterways such as cycling, hiking, and birding.
- Further development of Fish and Hunt Maryland as a unique Maryland brand and product.

- Partnering and promotion with National Park Service of the national historic trails and federal parks on and along the Maryland waterways, including Captain John Smith National Historic Trail and the Star-Spangled Banner National Historic Trail.
- Partnering and promotion of all Maryland State Parks along Maryland waterways.
- Working with tourism stakeholders throughout the state, including local Destination Management Organizations, to help create, sustain, and promote tourism attractions and activities along all of the Maryland waterways.

Recommendations

- Keep the VET tax cap of \$15,000 and at the end of fiscal year 2018 conduct an economic analysis using five full years of data to have a more complete analysis of the effect of the cap on vessel sales and registrations.
- DNR should work with the Maryland General Assembly to adjust vessel title and registration fees to account for program costs and inflation and avoid issuance of documents at a fiscal loss to the State. This would free up additional WIF funds from being used to support overhead costs incurred to fund Licensing and Registration and other DNR Units that could then be used to support additional grants to counties and municipalities.
- DNR should work with the Maryland General Assembly to propose non-powered vessels pay the one-time excise tax at the point of purchase in place of the general sales tax now being collected.
- The Maryland General Assembly should restore the \$2.2 million that had been transferred to the General Fund from the WIF in fiscal year 2015.
- DNR should continue to support Executive Order 13508 regarding public access in the Chesapeake Bay Region and encourage counties and municipalities to pursue WIF grants to enhance and expand investment in infrastructure that serves transient boaters including boat ramps and temporary docking facilities.
- DNR & DBM coordinate with the Army Corps of Engineers to expand the definition of commercial waterways to include marinas, boatyards and other water-dependent entities to expand the opportunity for federal dredging funds.
- DNR should coordinate a public awareness campaign to increase visibility of the Waterway Improvement Grant Program emphasizing the impact of the important grant supported work being done in conjunction with counties and municipalities.
- DNR should examine its internal policy of directing Waterway Improvement Fund revenue to other DNR Units for the purpose of paying for operating costs that should be funded by General Funds. Specifically, special funds should be restricted to the purpose of that fund; supporting and enhancing Maryland's waterways.
- DNR should coordinate a working group, through its Working Waterfronts Program, to encourage the development of boatyards, marinas, and shore-side

attractions for transient and Maryland commercial- and recreational-based vessels. Additionally, DNR, DBM and other State agencies should support the protection of waterfronts similar to the Baltimore Maritime Industrial Zoning Overlay District Study (MIZOD) and the Annapolis Maritime Industry Preservation Analysis.

- DBED/Maryland Office of Tourism Development should coordinate a comprehensive tourism and marketing strategy for boating and water-based tourism activities.

References

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Recreational Boating Statistical Abstract, National Marine Manufacturers Association, Center of Knowledge, 2013.

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Transient Boating in Maryland: The Economic Impact of Out-Of-State Boater Spending, Douglas Lipton, May 2005.

Waterway Improvement Capital Program Benefits, Needs, and Opportunities, Prepared in Response to the 2011 Joint Chairman's Report, September 2011.

Appendices

Appendix 1: Senate Bill 90

Appendix 2: Comparative Vessel Acquisition and Use Financial Burden in Maryland and Neighboring States

Appendix 3: Economic Impact Studies, FY 13-15

Appendix 4: Boater Attitude Survey Findings

Appendix 1

Senate Bill 90

Chapter 180

(Senate Bill 90)

AN ACT concerning

~~Natural Resources – Vessel Excise Tax – Maximum Tax
Motor Fuel Tax Distribution – Waterway Improvement Fund~~
Natural Resources – Vessel Excise Tax – Waterway Improvement Fund

FOR the purpose of ~~limiting the amount of the vessel excise tax to a certain amount for each vessel; limiting the amount of the vessel excise tax to a certain amount for each vessel; and generally relating to a limitation on the vessel excise tax payable for each vessel~~ altering a certain distribution of certain motor fuel tax revenue; requiring the Comptroller to distribute a certain percentage of the revenue to the Waterway Improvement Fund; requiring the Department of Natural Resources to submit reports on or before certain dates describing the effect of the limitation on the vessel excise tax as enacted by this Act; establishing the Task Force to Study Enhancing Boating and the Boating Industry in Maryland; providing for the composition, chair, and staffing of the Task Force; prohibiting a member of the Task Force from receiving certain compensation, but authorizing the reimbursement of certain expenses; requiring the Task Force to evaluate options and make recommendations for enhancing boating and growing the boating industry; requiring the Task Force to report its findings and recommendations to the Governor and the General Assembly on or before a certain date; providing that the altered distribution of motor fuel tax revenue as enacted by this Act applies only under certain circumstances; providing for the termination of certain provisions of this Act; and generally relating to the distribution of motor fuel tax revenue, vessel excise tax and the Waterway Improvement Fund.

~~BY repealing and reenacting, with amendments,
Article – Natural Resources
Section 8–716(e)
Annotated Code of Maryland
(2012 Replacement Volume)~~

BY repealing and reenacting, with amendments,
Article – Natural Resources
Section 8–716(c)
Annotated Code of Maryland
(2012 Replacement Volume)

BY repealing and reenacting, with amendments,
Article – Tax – General

Section 2-1104
Annotated Code of Maryland
(2010 Replacement Volume and 2012 Supplement)

SECTION 1. BE IT ENACTED BY THE GENERAL ASSEMBLY OF MARYLAND, That the Laws of Maryland read as follows:

~~Article – Natural Resources~~

~~§ 716.~~

~~(e) (1) [Except] SUBJECT TO THE LIMITATION UNDER PARAGRAPH (3) OF THIS SUBSECTION AND EXCEPT as provided in § 8-715(d) of this subtitle and in subsections (e) and (f) of this section, and in addition to the fees prescribed in subsection (b) of this section, an excise tax is levied at the rate of 5% of the fair market value of the vessel on:~~

~~(i) The issuance of every original certificate of title required for a vessel under this subtitle;~~

~~(ii) The issuance of every subsequent certificate of title for the sale, resale, or transfer of the vessel;~~

~~(iii) The sale within the State of every other vessel; and~~

~~(iv) The possession within the State of a vessel used or to be used principally in the State.~~

~~(2) Notwithstanding the provisions of this subsection, no tax is paid on issuance of any certificate of title if the owner of the vessel for which a certificate of title is sought was the owner of the vessel prior to June 1, 1965, or paid Maryland sales and use tax on the vessel as required by law at the time of acquisition. The Department may require the applicant for titling to submit satisfactory proof that the applicant owned the vessel prior to June 1, 1965.~~

~~(3) THE EXCISE TAX IMPOSED UNDER THIS SUBSECTION MAY NOT EXCEED \$10,000 FOR ANY VESSEL.~~

Article – Natural Resources

8-716.

(c) (1) [Except] SUBJECT TO THE LIMITATION UNDER PARAGRAPH (3) OF THIS SUBSECTION AND EXCEPT as provided in § 8-715(d) of this subtitle and in subsections (e) and (f) of this section, and in addition to the fees prescribed in

subsection (b) of this section, an excise tax is levied at the rate of 5% of the fair market value of the vessel on:

(i) The issuance of every original certificate of title required for a vessel under this subtitle;

(ii) The issuance of every subsequent certificate of title for the sale, resale, or transfer of the vessel;

(iii) The sale within the State of every other vessel; and

(iv) The possession within the State of a vessel used or to be used principally in the State.

(2) Notwithstanding the provisions of this subsection, no tax is paid on issuance of any certificate of title if the owner of the vessel for which a certificate of title is sought was the owner of the vessel prior to June 1, 1965, or paid Maryland sales and use tax on the vessel as required by law at the time of acquisition. The Department may require the applicant for titling to submit satisfactory proof that the applicant owned the vessel prior to June 1, 1965.

(3) THE EXCISE TAX IMPOSED UNDER THIS SUBSECTION MAY NOT EXCEED \$15,000 FOR ANY VESSEL.

SECTION 2. AND BE IT FURTHER ENACTED, That the Laws of Maryland read as follows:

Article – Tax – General

2-1104.

(a) Except as otherwise provided in this section, after making the distributions required under §§ 2-1101 through 2-1103 of this subtitle, from the remaining motor fuel tax revenue, the Comptroller shall distribute:

(1) 2.3% to the Chesapeake Bay 2010 Trust Fund; and

(2) 0.5% TO THE WATERWAY IMPROVEMENT FUND; AND

[(2)] (3) any remaining balance to the Gasoline and Motor Vehicle Revenue Account of the Transportation Trust Fund.

(b) For each fiscal year beginning on or before July 1, 2015, instead of the distribution required under subsection (a)(1) of this section, the Comptroller shall distribute 2.3% of the remaining motor fuel tax revenue as follows:

- (1) to the General Fund of the State:
 - (i) \$5,000,000 for each fiscal year beginning on or before July 1, 2011;
 - (ii) \$5,000,000 for each of the fiscal years beginning July 1, 2012, July 1, 2013, and July 1, 2014; and
 - (iii) \$4,624,687 for the fiscal year beginning July 1, 2015;
- (2) \$8,000,000 to the Budget Restoration Fund for the fiscal year beginning July 1, 2012; and
- (3) the balance to the Chesapeake Bay 2010 Trust Fund.

SECTION 3. AND BE IT FURTHER ENACTED, That the Department of Natural Resources shall submit a report on or before August 1 of 2014, 2015, and 2016 to the Governor and, in accordance with § 2-1246 of the State Government Article, the General Assembly that describes the effect of the limitation on the vessel excise tax enacted by Section 1 of this Act during the preceding fiscal year on:

- (1) the number and type of vessels registered in the State; and
- (2) the health of the boating industry.

SECTION 4. AND BE IT FURTHER ENACTED, That:

(a) There is a Task Force to Study Enhancing Boating and the Boating Industry in Maryland.

(b) The Task Force consists of the Secretary of the Department of Natural Resources or the Secretary's designee, who shall serve as the chair of the Task Force, and the following individuals appointed by the Secretary:

- (1) one representative of the Marine Trades Association of Maryland;
- (2) one representative of the Department of Business and Economic Development;
- (3) one representative of the Maryland Association of Counties;
- (4) one representative of the Maryland Municipal League;
- (5) one representative of the Boat Owner's Association of the United States;

(6) one representative of the Recreational Boating and Fishing Foundation;

(7) one representative of the Chesapeake Bay Yacht Clubs Association;

(8) one representative from the Maryland Boat Act Advisory Committee;

(9) one individual representing paddle sports; and

(10) one representative of a local tourism board or visitor bureau in a county that borders the Chesapeake Bay.

(c) The Department of Natural Resources shall provide staff for the Task Force.

(d) A member of the Task Force:

(1) may not receive compensation as a member of the Task Force; but

(2) is entitled to reimbursement for expenses under the Standard State Travel Regulations, as provided in the State budget.

(e) The Task Force shall:

(1) evaluate options and make recommendations for enhancing boating and growing the boating industry in the State; and

(2) consider the following:

(i) incentives to encourage boats to register in the State and use marinas and boat yards for recreation, repair, and outfitting in the State;

(ii) the impact of modifying the State vessel excise tax rate and boat registration fees;

(iii) the expenditure and use of the Waterway Improvement Fund and its benefits to the general boating public and the State's boating industry;

(iv) the impact on the boating industry and the general boating public of decreased State and federal spending on boating access;

(v) the costs and needs of maintaining and improving public boating infrastructure and boating safety; and

(vi) any other matter that the Task Force agrees will enhance boating in the State.

(f) On or before September 1, 2015, the Task Force shall submit a report of its findings and recommendations to the Governor and, in accordance with § 2-1246 of the State Government Article, the General Assembly.

SECTION 5. AND BE IT FURTHER ENACTED, That, notwithstanding Section 1 of this Act, except as otherwise provided in this section, the altered distribution of revenue from the motor fuel tax under the provisions of Title 2, Subtitle 11 of the Tax – General Article as enacted by this Act does not apply until any Consolidated Transportation Bonds that were issued by the Department of Transportation before July 1, 2013, no longer remain outstanding and unpaid. In any fiscal year for which funds are appropriated by the General Assembly to pay the amount due and payable in that fiscal year for the principal of and interest on the Department of Transportation’s Consolidated Transportation Bonds ~~that were issued before July 1, 2013~~, the revenue from the motor fuel tax shall be distributed as provided in Title 2, Subtitle 11 of the Tax – General Article as enacted by this Act.

SECTION ~~5~~ 6. AND BE IT FURTHER ENACTED, That this Act shall take effect July 1, 2013. Sections 1 and 4 of this Act shall remain effective for a period of 3 years and, at the end of June 30, 2016, with no further action required by the General Assembly, Sections 1 and 4 of this Act shall be abrogated and of no further force and effect.

Approved by the Governor, May 2, 2013.

Appendix 2

Comparative Vessel Acquisition and Use Financial Burden in Maryland and Neighboring States

To see the comparative tax burden imposed by states on boat ownership in the region, the tax associated with acquiring and operating four different sizes of boats, see Figure 8 below, was calculated. This was based on data in the [Boat U.S. website](#), as well as websites for taxation, boat titling and registration, and motor fuel tax and refunds.

Four “Model” Boat Types for the purposes of comparing tax burdens across states

Boat	Price	Length	GPH	Speed (kts)	MPH	MPG
Bayliner	\$17,200	16'	2.9	21.6	24.9	8.586207
Calcutta	\$109,000	26'3"	7.3	22	26	3.561644
True North Express	\$345,000	35'9"	12.2	16..6	19.1	1.565574
Tiara (diesel)	\$903,700	45'6"	30	20	23	0.766667

The first tax is generally on acquisition, and is only paid at the time the boat is purchased, either new or from another owner. In Maryland this is the Vessel Excise Tax. How neighboring states address initial acquisition varies relatively broadly.

Taxes on acquisition of a several boat sizes in Maryland and neighboring states						
State	Boat Sales & Use Tax Rate:	\$17,200 boat	\$109,000 boat	\$345,000 boat	\$903,700 boat	Notes:
MARYLAND	5%	\$860	\$5,450	\$15,000	\$15,000	Excise tax is used to fund the WIF, capped at \$15,000.
PENNSYLVANIA	6%	\$1,032	\$6,540	\$20,700	\$54,222	Tax is 7% in Allegheny and Philadelphia Counties
VIRGINIA	2%	\$344	\$2,000	\$2,000	\$2,000	\$2,000 Maximum Sales Tax; State decal for documented vessels is available upon request.
DELAWARE	0%	\$128	\$814	\$2,576	\$6,749	There is a Gross Receipts Tax that will increase the cost of vessels purchased from dealers (used here)
NEW JERSEY	7%	\$1,204	\$7,630	\$24,150	\$63,259	There is a propose 3.5% sales tax proposal being considered by the New Jersey General Assembly
NORTH CAROLINA	3%	\$516	\$1,500	\$1,500	\$1,500	Maximum tax due is \$1,500

Comparative Vessel Acquisition Tax Burden in Maryland and Neighboring States

The second tax or fee is for registration, which is an annual cost for operating the boat. Some states size classes cut across the boat length lines assumed, but these are generally accurate to the length of the boat.

Annual registration fee for several boat sizes in Maryland and neighboring states					
		Registration Fee (annualized)			
		\$17,200 boat	\$109,000 boat	\$345,000 boat	\$903,700 boat
State	Registration requirement	16'	26'3"	35'9"	45'6"
MARYLAND	all boats >16 feet and/or with engines > 7.5 hp.	\$0.00	\$12.00	\$12.00	\$12.00
PENNSYLVANIA	Powered and unpowered if used at certain launches	\$13.00	\$26.00	\$26.00	\$26.00
VIRGINIA	all motorboats, including electric motors and sailboat over 18 feet	\$9.00	\$12.33	\$12.33	\$15.00
DELAWARE	all motorboats, including electric motors	\$10.00	\$30.00	\$30.00	\$50.00
NEW JERSEY	all motorboats, including electric motors and sailboats over 12 feet	\$12.00	\$52.00	\$52.00	\$80.00
NORTH CAROLINA	all motorboats, including electric motors and sailboats over 14 feet	\$33.00	\$53.00	\$53.00	\$53.00

Fuel taxes are another major component of cost for operating the boat. Some states refund all or a part of the fuel tax, so the calculation includes any refund, which must be applied for by the boater. Refunds are as indicated at the [American Boating Association](#) website or by investigating the state websites.

Annual gasoline costs for several boat sizes in Maryland and neighboring states						
State	Gasoline taxes (cents per gallon)		Fuel Tax Calculated			
	Rate 2013	Refund?	\$17,200 boat	\$109,000 boat	\$345,000 boat	\$903,700 boat
			Gas	Gas	Gas	Diesel (not taxed)
MARYLAND	23.5		\$27	\$66	\$150	\$0
PENNSYLVANIA	32.3		\$38	\$91	\$206	\$0
VIRGINIA	19	Yes \$.175 per gallon	\$2	\$4	\$10	\$0
DELAWARE	23	Yes	\$0	\$0	\$0	\$0
NEW JERSEY	14.5		\$17	\$41	\$93	\$0
NORTH CAROLINA	30.2	Yes	\$0	\$0	\$0	\$0

Finally, some states still have a local tangible personal property tax that is assessed on vehicles, including power boats that are identified in the registration system. This is an annual cost of operating a boat. Virginia localities have this option, which varies widely between different parts of the state. An extreme example would be Arlington County, which is among the highest in the state at \$5 per \$100 of value. For Arlington County, the \$5,000 boat would be charged \$250 per year, the \$100,000 boat would pay \$4,230 per year, and the \$500,000 boat would pay \$24,230 per year, after certain exemptions are applied. Some Virginia localities do not apply the personal property tax to boats or charge lower rates per \$100 of value.

Virginia County	Valuation	Annual Tax Rate per \$100 valuation	Annual tax on \$100,000 boat
Arlington	100%	\$5.00	\$5,000
York	100%	\$4.00	\$4,000
King George	100%	\$3.25	\$3,250
Matthews	100%	\$1.45	\$1,450
Portsmouth	100%	\$0.50	\$500

Adding these costs together, dividing the tax on acquisition by ten years, treating the other categories as annual costs provides a total cost. Dividing this total cost by the assumed boat value provides “tax cost” as a percentage. Based on this measure, Delaware has the lowest tax costs for boats, and Virginia, using Arlington County program parameters, has the highest. Maryland is third highest of the six states examined.

Total tax cost of ownership for several boat sizes in Maryland and neighboring states				
State	Total Cost of Ownership			
	\$17,200 boat	\$109,000 boat	\$345,000 boat	\$903,700 boat
MARYLAND	\$113	\$623	\$1,662	\$1,512
PENNSYLVANIA	\$154	\$771	\$2,302	\$5,448
VIRGINIA	\$905	\$5,667	\$17,472	\$45,400
DELAWARE	\$23	\$111	\$288	\$725
NEW JERSEY	\$149	\$856	\$2,560	\$6,406
NORTH CAROLINA	\$85	\$203	\$203	\$203
State	Percent of cost			
	\$17,200 boat	\$109,000 boat	\$345,000 boat	\$903,700 boat
MARYLAND	0.66%	0.57%	0.48%	0.17%
PENNSYLVANIA	0.89%	0.71%	0.67%	0.60%
VIRGINIA	5.26%	5.20%	5.06%	5.02%
DELAWARE	0.13%	0.10%	0.08%	0.08%
NEW JERSEY	0.87%	0.79%	0.74%	0.71%
NORTH CAROLINA	0.49%	0.19%	0.06%	0.02%

The same table for a Virginia county that does not charge tangible personal property tax on boats is below. Delaware is still lowest, but Virginia is now second lowest and Maryland is second or third highest of the six states examined depending on boat size, after Pennsylvania and New Jersey (for largest boats).

Total tax cost of ownership for several boat sizes in Maryland and neighboring states (assumes no personal property tax in VA)				
State	Total Cost of Ownership			
	\$17,200 boat	\$109,000 boat	\$345,000 boat	\$903,700 boat
MARYLAND	\$113	\$623	\$1,662	\$1,512
PENNSYLVANIA	\$154	\$771	\$2,302	\$5,448
VIRGINIA	\$45	\$217	\$222	\$215
DELAWARE	\$23	\$111	\$288	\$725
NEW JERSEY	\$149	\$856	\$2,560	\$6,406
NORTH CAROLINA	\$85	\$203	\$203	\$203
State	Percent of cost			
	\$17,200 boat	\$109,000 boat	\$345,000 boat	\$903,700 boat
MARYLAND	0.66%	0.57%	0.48%	0.17%
PENNSYLVANIA	0.89%	0.71%	0.67%	0.60%
VIRGINIA	0.26%	0.20%	0.06%	0.02%
DELAWARE	0.13%	0.10%	0.08%	0.08%
NEW JERSEY	0.87%	0.79%	0.74%	0.71%
NORTH CAROLINA	0.49%	0.19%	0.06%	0.02%

The various states' treatment of non-motorized boats, such as canoes and kayaks, is summarized below:

Tax treatment of canoes/kayaks versus power boats in Maryland and neighboring states (no personal property tax in VA)					
	Excise or Sales Tax			Titling	Registration
	Power Boats	Canoes and Kayaks			
MARYLAND	5%	6%	new	none	none
PENNSYLVANIA ¹	6%	6%	new	none	none
VIRGINIA	2%	5.30%	new	none	none
DELAWARE	0.75%	0.75%	gross receipts tax on all retail	none	none
NEW JERSEY	7%	7%	new	none	none
NORTH CAROLINA	3%	3%	new	none	none

¹ Unless using certain State ramps.

Appendix 3

Economic Impact Studies, FY 13-15



Preliminary Evaluation of SB90, 2013 Effects

Developed by the Environmental Finance Center (EFC) at the University of Maryland in Partnership with Main Street Economics.

January 30, 2014

The following policy note was produced by the Environmental Finance Center in partnership with Main Street Economics. Any questions or concerns should be forwarded to Dan Nees, Senior Research Associate at dnees@umd.edu.

Introduction. This policy note contains a follow-up evaluation related to EFC's analysis of the likely impact of a vessel tax cap on boat sales in the state of Maryland. Below we provide a preliminary evaluation of high-value boat sales in Maryland in 2013; in addition, we offer the following key points and issues:

- Due to data constraints, our earlier research used four years worth of data to evaluate the influence of factors that affect boaters' decisions about where to register their boat. We then simply divided outcomes by 4 to suggest annual boater registration effects owing to a change in the incidence of the VET. Using six months worth of data to evaluate results generated by four-year averages presumes greater precision than our estimators have.
- Given current data constraints (i.e., only six months experience with the SB90 cap) there is an increase in number and sales value of >\$300,000 vessels when we compare calendar year 2013 with calendar year 2012. Since the cap was only in effect half of that period, its full-year effect is uncertain. Moreover, there was a bump in sales and sales value for this same set going from 2011 to 2012 (before SB90) and that was not much different than the change from 2012 to 2013.
- When we break the data down to six-month periods – first and second half of the calendar year – there is an apparent relationship between the two halves such that sales volumes are greater in the first half of the year. In 2013, this relationship changed and there was greater sales volume in the second half of the year.
- When we compare registrations of >\$300,000 vessels against all new registrations in 2013 by value, we see that >\$300,000 vessels had less of an uptick than either all registrations or even >\$150,000 vessels. It is not clear whether or not this is significant.

Preliminary Evaluation. In March of 2013, we reported the results of a study aimed at evaluating the likely change in Vessel Excise Tax (VET) revenues, given a change in the incidence of the tax. Those results were predicated on a multinomial LOGIT model which considered demand for high-end boat registrations among a subset of Maryland residents and residents of neighboring states who either bought their boat in Maryland or registered it here (i.e., both Maryland B110 purchases and VET registrations). We evaluated registrants' decisions with respect to several variables that might reasonably be thought to influence their choices, including: distance between a registrant's residence and dockage in Maryland's waters, tax rates by state, a weather variable and a variable tracking the concentration of marinas.

Output from the LOGIT model was used to predict changes in boat registrants' choices given a cap on Maryland's VET. In particular, we generated coefficients that allowed us to predict the number of additional boats that would register in Maryland from neighboring states, given a change in tax requirements. Using historical Maryland boat registration data, we were then able to evaluate whether the capped tax from additional boats registering in Maryland would compensate for the VET revenues lost due to the cap at some particular level. Results of all tested tax cap levels indicated that direct revenue from the VET would suffer with a cap. However, we did not evaluate total tax revenue generated by the increase in Maryland high-end boat registrations including additional in-state spending on dockage, supplies, repair and recreation by new registrants.

The six months of market activity since the implementation of SB 90, 2013, affords us a preliminary look at potential early effects. Using updated sales data from Maryland DNR tracking boat sales greater than \$300,000 in which the boat was registered in Maryland, Table 1 reports an uptick in both the number and value of sales from 2012 to 2013. Sales of boats valued more than \$300,000 in calendar year 2013 were 19 percent more numerous than in 2012 and their annual combined value was 28 percent higher. Of course, given the revenue effect of the tax cap, VET revenues generated by those sales declined by 15 percent over the same period.

Table 1: Maryland-Registered Vessels >\$300,000

	Sales (Number)	Value of Sales	VET
2002	241	118,866,333	4,408,759
2003	266	169,642,405	6,093,225
2004	343	174,075,184	5,546,602
2005	352	180,980,953	6,412,934
2006	304	155,370,984	5,484,626
2007	319	161,640,708	5,786,398
2008	207	111,338,900	3,945,437
2009	130	68,009,006	2,556,623
2010	130	61,409,088	2,179,155
2011	105	53,217,168	1,934,057
2012	124	64,452,269	2,551,228
2013	148	82,541,914	2,165,925

The increase in sales and sales values from 2012 to 2013 only slightly exceed the increase seen between 2011 and 2012, before SB 90. Comparing sales of greater than \$300,000 vessels registering in Maryland between those two years, 2012 showed an 18 percent increase in sales numbers and a 21 percent increase in sales values over 2011. Moreover, since there was no tax cap during that period, VET revenues increased almost 32 percent between 2011 and 2012.

Since in the preceding we are considering whole calendar years and the tax cap has only been in place for six months, any effect of the cap is diluted. We might expect to see its effect more clearly if we consider six month periods, rather than full years. Comparing annual sales and sales volumes between the first and second half of each calendar year from 2002 to 2012, we find that

numbers and biannual value of sales for boats over \$300,000 are consistently greater during the first part of the year. On average over this period, we see 20 more sales taking place between January 1 and June 30 than between July 1 and December 31. Sales value during the first half of the average year exceeds that of the second half by \$16.68 million.

Calendar year 2013, with the tax cap taking effect on July 1 of the year, shows that rather than a decline of 20 sales during the second half of the year 2 more sales were transacted in the second than were transacted in the first half. And, rather than a \$16.68 million drop in second half sales values, 2013 shows an increase of \$13 million in qualifying sales during the second half. While it is clearly too early to say anything definitive about this statistic with respect to the tax cap, it looks like an exceptional increase in the sale and registration in Maryland of high end vessels.

An alternative view is that, in 2013, sales that might have taken place during the first half of the year were deferred until after the tax cap went into effect, artificially boosting second half sales. While this effect might exist, first half 2013 sales values for vessels valued at more than \$300,000 were only slightly less than 2012 values for the same period and number of sales was greater. Almost half of the sales in the first half of 2013 took place during the second quarter, when it was known that a tax cap was coming. In fact, a significant number of qualifying boats sold in the second quarter of 2013 were registered at excise tax rates that incorporated the cap.

In addition to the sales of vessels greater than \$300,000 registering in Maryland, our earlier study made use of data on sales happening in Maryland in which the vessel is to be registered elsewhere. These are referred to as B110 sales, for the forms that must be completed when they are sold. Those vessels are not liable for Maryland’s VET, but rather are taxed according to the rules operative in the place where they will register.

Another years worth of data was added to a series compiled under the earlier research for all sales greater than \$150,000 and beginning with the second half of 2008. In our evaluation, we limit those data to the \$300,000 and greater sales. Qualifying B110 sales appear to be on a downward trend during this period. In 2009 and 2010, sales during the second half of each year were much more robust than sales in their first halves. However, in 2011 sales were roughly the same during the first and second halves of the year and both 2012 and 2013 have more and larger sales during the first half of each year. In short, there is no readily apparent pattern with respect to half year sales statistics for B110 sales. On the other hand, it can be said that the trending decline in the share of B110 to Maryland-registered sales of vessels greater than \$300,000 appears to continue in 2013.

Table 2: B110 Summary Data

Year	# Sales	ValueSales	Annual Numbers	
			Sales	Values
2008a				
2008b	41	32,411,751		
2009a	25	14,499,652	2009	66
2009b	41	32,441,524		46,941,176
2010a	24	19,650,170	2010	54
2010b	30	21,062,444		40,712,614
2011a	29	16,102,241	2011	58
2011b	29	16,558,882		32,661,123
2012a	27	21,415,265	2012	44
				32,542,415

2012b	17	11,127,150			
2013a	21	22,580,354	2013	41	35,784,910
2013b	20	13,204,556			

Considering greater than \$300,000 vessels with respect to all new Maryland-registered vessels, we can see that year-on change tracks rather closely from 2002 to the present. Figure 1 shows both greater than \$150,000 and greater than \$300,000 vessels in relation to all vessel registrations over this period. (Note: Neither this nor the next figure includes B110 sales.) Figure 2 shows this same time series for VET revenue from sales. Greater than \$300,000 VET revenues drop in 2013 as a result of SB90. In Figure 1, both All-Sales and >150k sales increase at a faster clip than >300k sales in 2013.

Figure 1

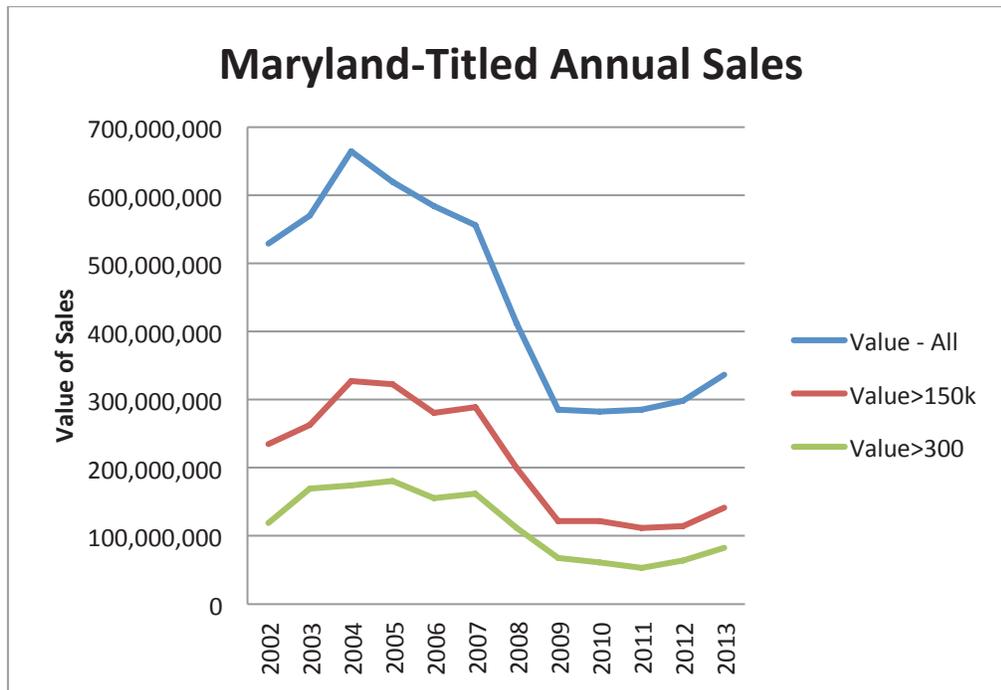
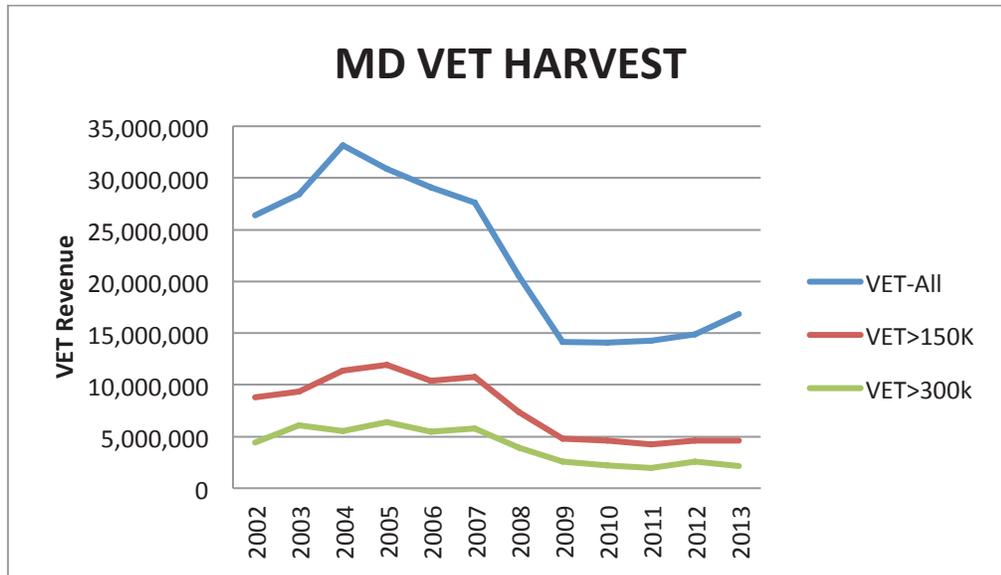


Figure 2



A final statistic of possible relevance to SB90 is the change in very high end vessel registrations. If we use the (admittedly arbitrary) figure, \$1,000,000 as our cut off for such vessels, we see that there was a year-on-year bump in Maryland registrations of such boats between 2012 and 2013. As discussed, above, the effect of the tax cap extended beyond the 6 months implied by our use of purchase date as our variable of interest because some vessels purchased in the first half of the year did enjoy registration at the capped rate. So, while there was a 50 percent increase in the number of over \$1 million boat registrations between 2012 and 2013, it is not clear what its full year effect will be. Moreover, the increase between 2012 and 2013 still leaves sales of very high-end vessels well short of their 2004 to 2006 highs.

Table 3: Annual New Registrations of >\$1 Million Vessels

Year	# of >\$1 Million Vessels
2002	10
2003	11
2004	20
2005	18
2006	16
2007	16
2008	13
2009	7
2010	5
2011	6
2012	8
2013	12



2014

Recreational Boating and Fiscal Analysis Study



September 2014



This report was produced on behalf of the Maryland Department of Natural Resources.

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Environmental Finance Center



The Environmental Finance Center (EFC) is located at the National Center for Smart Growth Research and Education at the University of Maryland in College Park. The EFC is a regional center developed by the Environmental Protection Agency to assist communities and watershed organizations in identifying innovative and sustainable ways of implementing and financing their resource protection efforts throughout the Mid-Atlantic region. The EFC is non-advocacy in nature and has assisted communities and organizations in developing effective sustainable strategies for specific watershed protection

Photo credit: <http://s3.amazonaws.com/snd-store/3107634/original.jpg>

I. Introduction

On May 2, 2013 Governor O'Malley signed into law Senate Bill 90 (SB 90) which capped the Vessel Excise Tax (VET), which formerly stood at 5% of the value of a vessel at the time of its registration, at a maximum of \$15,000 for any vessel. SB 90 also required: "That the Department of Natural Resources shall submit a report on or before August 1 of 2014, 2015, and 2016 to the Governor and, in accordance with § 2-1246 of the State Government Article, the General Assembly that describes the effect of the limitation on the vessel excise tax enacted by Section 1 of this Act during the preceding fiscal year on:

- (1) the number and type of vessels registered in the State; and
- (2) the health of the boating industry."

This report aims to fulfill the reporting requirements of SB 90 for fiscal year 2014, reporting boat registrations information, revenues from the vessel excise tax (VET), and changes in those factors over time. It also reports revenues available to the Waterway Improvement Fund (WIF), including Maryland Fuel Tax revenues made available under SB 90. The report compares Maryland's experience with respect to boat registrations in fiscal year (FY) 2014, when SB 90 changed the tax environment facing some boaters, with the experience of neighboring states that did not have a change in tax policy over the same period and this comparison is evaluated. Finally, the report summarizes results from a survey of marine trade enterprise owners' perceptions of current markets (FY 2014) compared to their markets in FY 2013.

It should be noted that the economic "effect of the limitation on the vessel excise tax" is not estimated here. The economic effect of the \$15,000 cap on the VET is dependent on its effect on marginal boat registrants who would not have registered their boat in Maryland in the absence of SB 90. Some of the boats valued above \$300,000 registering in Maryland in FY 2014 may qualify as being "marginal" in the economic sense that the word is used here. Also, some of them may be boats that would have been registered in FY 2013 but which, when their owner saw the gains to waiting, were not registered until FY 2014. Since we do not have a way to distinguish boats that were going to be registered in Maryland independent of SB 90 and boats that registered because of SB 90, we do not attempt to estimate the economic effect of the cap on the VET.

In an earlier study¹, we used a logit probability model to estimate the demand effect of a change in the incidence of the VET on boat registrations in Maryland. That probability-based demand model became superfluous after SB 90 was adopted because with the cap on VET costs, we now have revealed preference information from the marketplace. However, this market information would require additional information about registrants, or buyers of boats valued at \$300,000 and up in order to be useful to an empirical analysis of SB 90's economic effect. In the meantime, we report available data about high end boat registrations in both Maryland and neighboring States, Maryland's VET revenues and we discuss the limited inferences which can be drawn from these data.

¹ Recreational Boating and Fiscal Analysis Study Final Report, UMD EFC, for MD DNR, 2013.

II. Registrations of High End Vessels in Maryland and Neighboring States

A. Registrations in Maryland

Maryland registrations of boats valued at \$300,000 and greater have risen for the second (fiscal) year in a row. In FY 2013, boats valued at \$300,000 and up rose about 49 percent from a very low FY 2012 figure. Following that increase, after implementation of the VET cap, registrations increased by over 36 percent from FY 2013 to FY 2014. Maryland boat registration data including numbers, summary values and VET revenue generation is reported in Table 1: Maryland Fiscal Year Higher-End Boat Registrations, 2003 to 2014.

Table 1: Maryland Fiscal Year Higher-End Boat Registrations, 2003 to 2014

Fiscal Year	Greater than \$300,000 Boats			Greater than \$150,000 Boats		
	Value of Sales	MD Reg Sales	VET	Value of Sales	MD Reg Sales	VET
2003	109,330,248	221	4,066,423	218,953,867	767	8,177,540
2004	140,455,658	292	4,888,201	281,331,083	983	10,198,115
2005	165,858,389	326	5,473,237	306,402,975	1023	10,792,382
2006	170,658,796	322	5,877,360	306,625,173	983	11,227,926
2007	152,171,479	295	5,230,345	270,868,012	875	9,811,416
2008	153,656,559	309	5,438,117	268,755,505	869	10,092,178
2009	101,131,185	183	3,736,480	178,770,669	561	6,688,871
2010	65,452,395	137	2,486,779	127,130,165	438	4,895,848
2011	68,156,530	147	2,452,984	134,317,936	468	5,010,790
2012	50,786,246	98	1,793,337	111,956,742	402	4,212,831
2013	72,541,423	146	2,855,838	132,223,447	435	5,231,132
2014	118,036,919	199	2,711,849	190,421,821	555	5,748,475

Source: MD DNR COIN Database.

The trend for numbers of boats valued at \$300,000 and up registering each fiscal year since 2005 is shown graphically in Figure 1a: Maryland Fiscal Year Higher-End Boat Registrations. For reference, we include a graph of registrations of boats valued at \$150,000 and up along with the targeted \$300,000 and up registrations. We do not expect registrations of boats valued below \$300,000 to be affected by the VET cap. The \$150,000 and up graph is included as information about registrations lower in the higher end of boat values.

Figure 1b: Value of Maryland Higher-End Boat Registrations shows how the total value of higher-end boat registrations has tracked over the past 12 years. The graph shows the increases in the total market value of higher-end boats registered in each of the past two fiscal years with a larger increase occurring in 2014. The value of registrations of boats between \$150,000 and less than \$300,000 and boats of \$300,000 and up both increased in both years.

Figure 1a: Maryland Fiscal Year Higher-End Boat Registrations, FY2003 - 2014

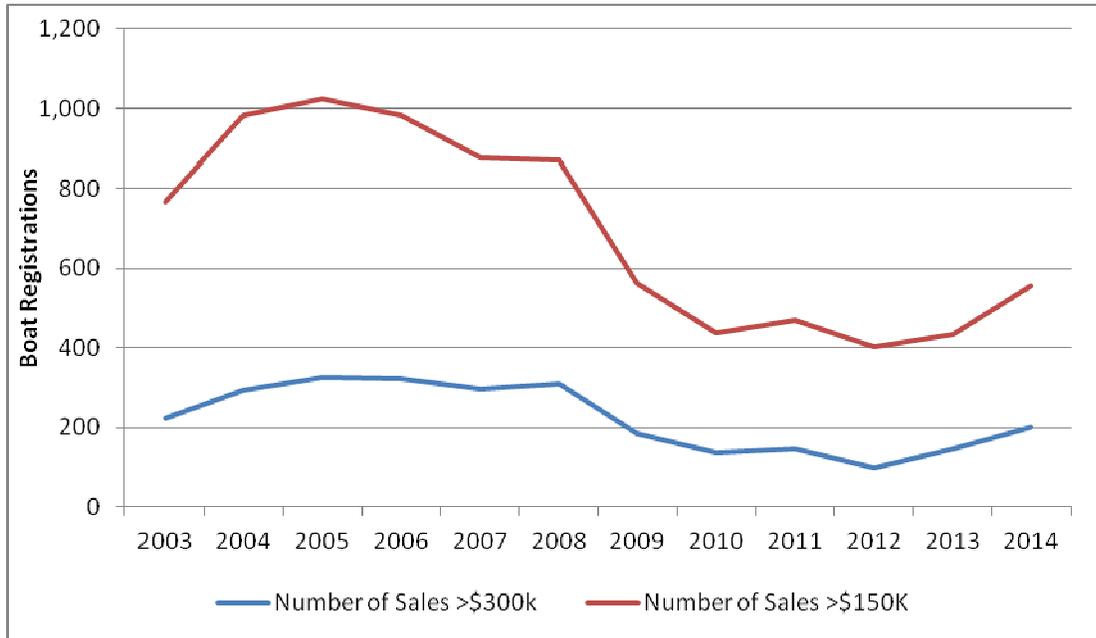
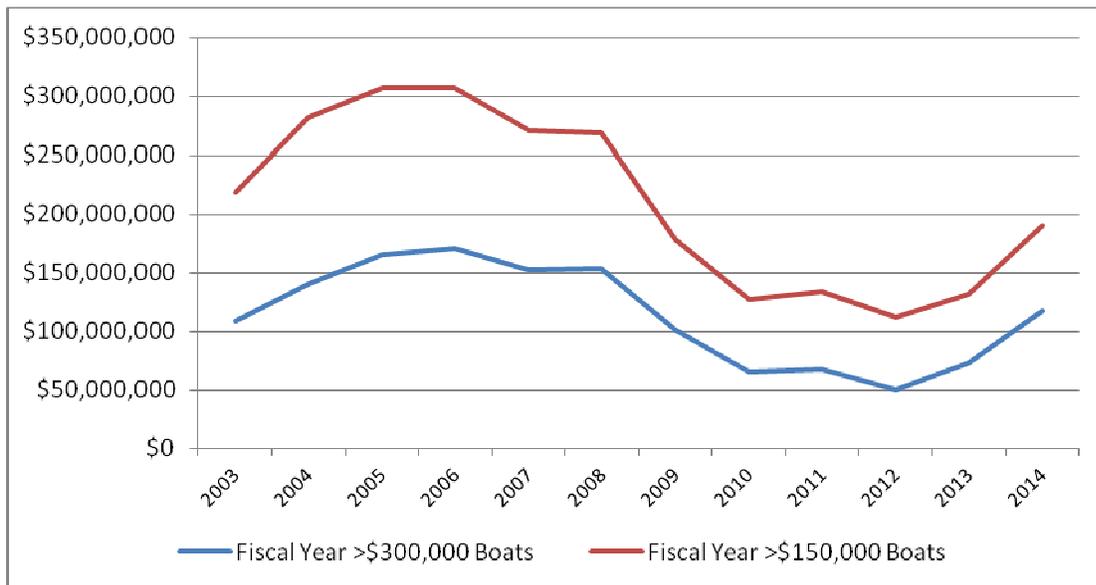
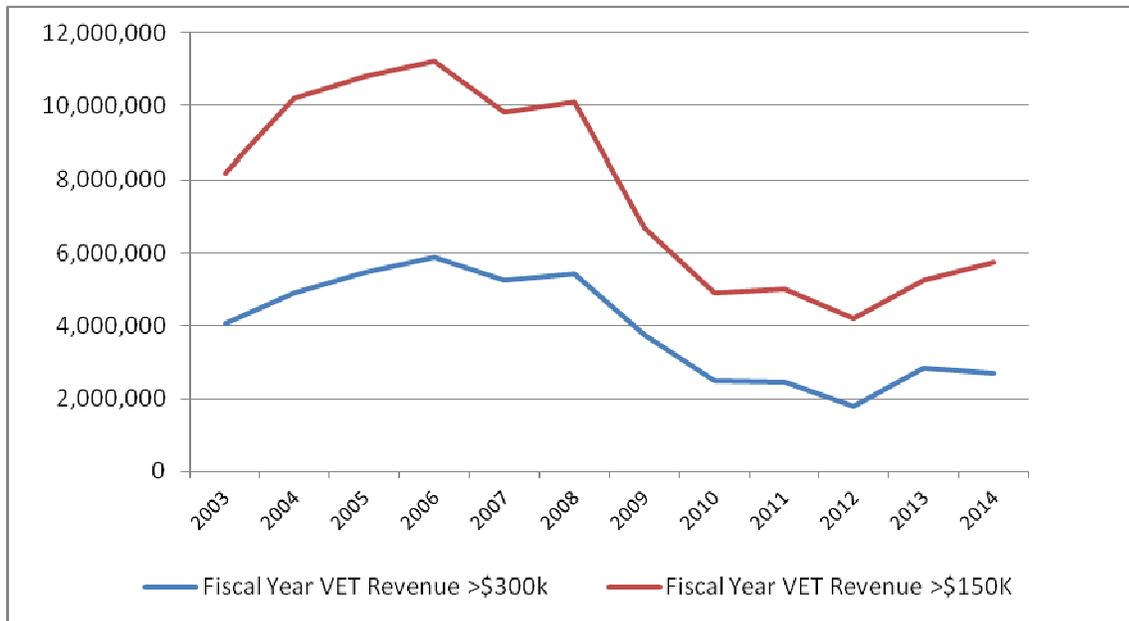


Figure 1b: Value of Maryland Higher-End Boat Registrations 2003 -2014



Trends for VET revenue from higher-end boats over the past 12 years is reported in Figure 2: VET Revenues from Higher-End Boats. This graph shows that, although the VET revenues from \$300,000 and up boats declined somewhat due to the VET cap, there was a large enough increase in registrations between \$150,000 and less than \$300,000 to compensate for that decline and total VET revenue from boats of \$150,000 value and greater increased from FY 2013 to FY 2014. It may be worth noting again, we do not expect the sale of boats valued less than \$300,000 to be affected by the VET cap.

Figure 2: VET Revenues from Higher-End Boats, 2003 - 2014



Total VET revenues have generally been in decline since FY 2006. In FY 2014, revenues from the VET stood at just over 50 percent of their FY 2005 value. These figures include all boats qualifying for the registration requirement entering in each fiscal year, and not just \$150,000 and up boats. How important are the higher-end boats to Maryland’s VET revenues and, particularly, to its temporal trends? Figure 3 reports the share of total VET revenues contributed by higher end boats from 2005 onward. In terms of share of total VET revenue, there does not appear to be a dramatic change over the period. \$150,000 and up boats contribute between 30 and 40 percent of the total and \$300,000 and up boats contribute from 13 to 22 percent over the period.

Figure 3: High-End Boat Contributions to Vet Revenues

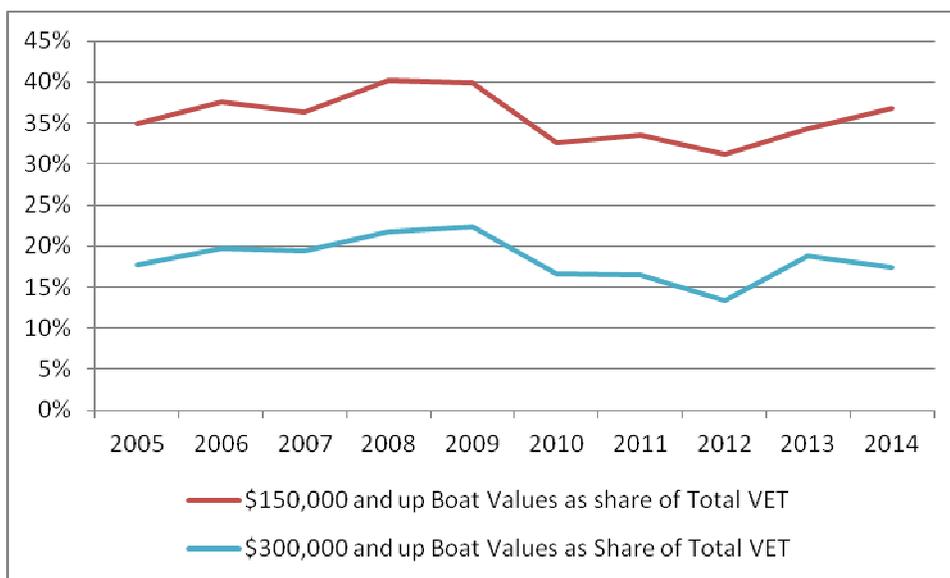
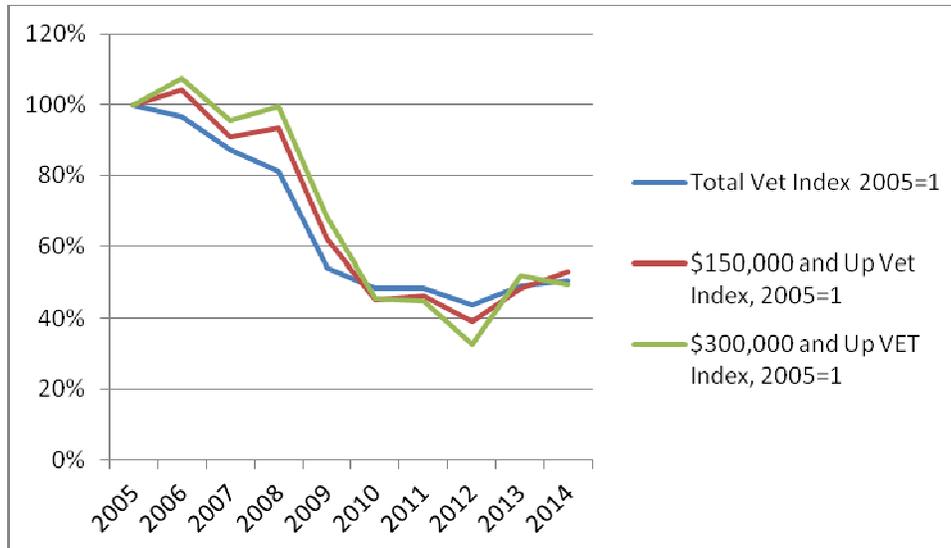


Figure 4: Index Values for VET Revenue and Shares from High End Boats



Since VET contributions from higher end boats are shares of a falling total, we provide information in Figure 4 about trends for total VET revenues alongside greater than \$150,000 and greater than \$300,000 contributions reported as index values, setting each variable equal to one at its 2005 value². Total VET revenues from boats valued less than \$150,000 fell faster from 2005 to 2010 than higher end boats. VET contributions from less than \$150,000 value boats then leveled off between 2010 and 2012, while higher end boats continued to fall. Then in 2013 and 2014, VET revenues from boats valued at \$150,000 and up rose, even as revenues from \$300,000 and up boats declined in 2014 due to the VET cap.

We noted in the introduction that we have no way at present of saying how many additional boats of greater than \$300,000 value, if any, registered in Maryland due to the VET cap. Without being able to account for that additionality, we cannot say how much VET revenue was lost or gained due to the cap. We can, however, measure the value of the wealth transfer to registrants of higher end boats. This is the difference between what was received as tax revenue from boats registering in the fiscal year and what would have been generated from those same registrations in the absence of SB 90. Using data compiled by MD DNR's Licensing and Registration Service, the value of this upward distribution of wealth was \$1.47 million.

B. Registrations in Neighboring States

While the implementation of the VET cap in Maryland prevents us from knowing what would have happened if it was not implemented, we might interpret the experience of neighboring states who did not implement a change in tax policy as an indicator of what might have happened in Maryland, without the cap. For this, we consider the recent experiences of Virginia and North Carolina.

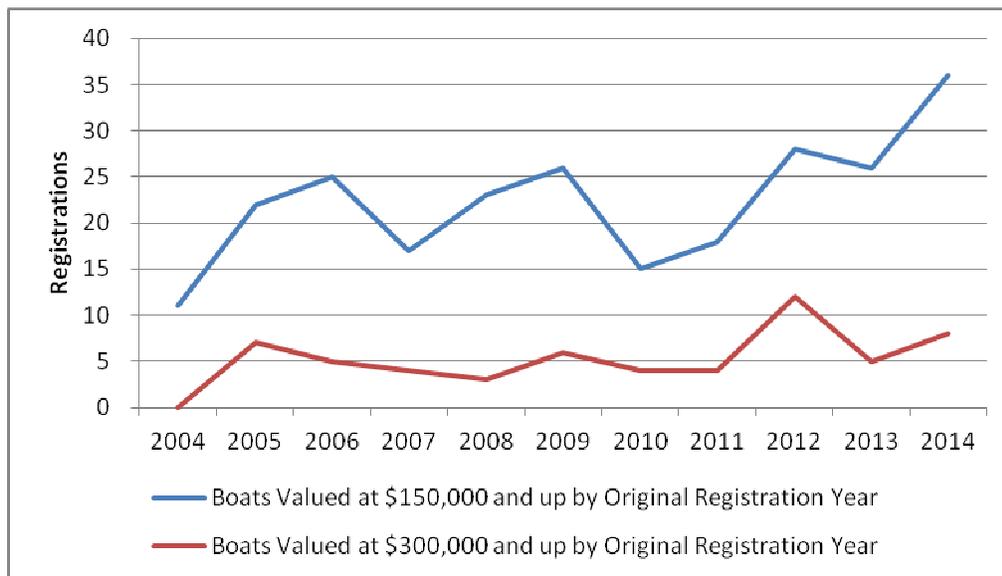
Virginia has a 2 percent tax on the value of a vessel registered in the state, up to a maximum of \$2,000. In addition, Virginia collects a one-time title fee (\$7) when the boat is registered and a registration fee that must be renewed every three years of \$27 to \$45, depending on length. On top of the one-time vessel titling tax and recurring registration fees, Virginia also allows annual taxes on boats as personal property. The personal property tax rate is set by the counties. Rates range from nothing to \$4.57 per hundred dollars of value. Because of these varying personal property tax rates, it is difficult to compare

² Treating total VET revenues and the portions provided by various categories of registered boats as indexes with a common starting place allows us to see change among variables with disparate measurement units more precisely.

the effect of taxes in Virginia with that of the VET in Maryland. That is not what we seek to do with the following description of recent trends for high end boat registrations in Virginia. Rather, our point in this description is that, given Virginia’s market for high end boat registrations and no significant change in its tax regime over the past several years, this is the way new registrations of high end boats have progressed there.

Figure 5 shows fiscal year (July through June) original registrations of boats currently registered in Virginia. Due to the data limitation that boats in the set be currently registered (i.e., active) in Virginia, it is likely that some boats that were registered in earlier years but shifted out of Virginia in the interim are excluded. Boats documented by the US Coast Guard are also not included in this data set, as documented boats are not required to be registered or titled in Virginia. While the set of currently active high end boats registered in Virginia appears to be on an upward trend, the increased likelihood of earlier registrations dropping off the list limits confidence in these data.

Figure 5: Active Virginia Registered High End Boats by Original Registration Year



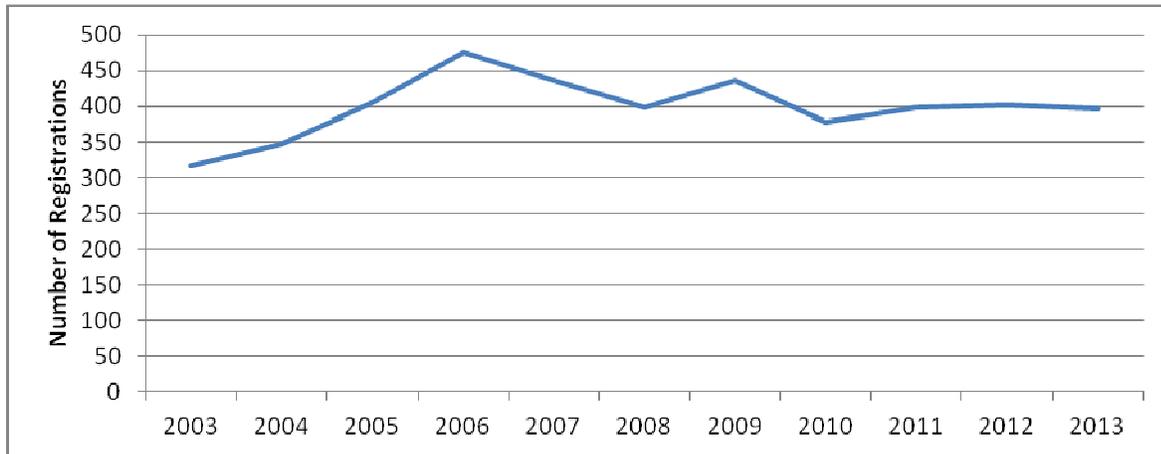
North Carolina has a 3 percent boat tax which is capped at \$1,500. Its registration fees range from \$35 for a one year registration of a vessel less than 14 feet to \$55 for a boat greater than 26 feet. A title fee of between \$35 and \$45 is applied once to vessels under the same owner(s). Like Virginia, however, North Carolina allows the assessment of an annual tax on boats as personal property. Also like Virginia, personal property tax and assessment rates are set by counties. In North Carolina, personal property tax rates range from \$0.57 to \$2.10 per hundred dollars of value.

North Carolina Wildlife Resources Commission provided a dataset of all boats registered in North Carolina from 2003 to June 30, 2014. While this is a more complete dataset than Virginia’s with respect to our goal of comparing neighboring States’ recent experience with high end boat registrations with that of Maryland, it does not include the value of the vessels registered. Since the cut-off of \$300,000 indicates where the VET cap should start to affect economic decisions, we would like to be able to compare rates of registration across states on the basis of that value cut-off.

In order to compare North Carolina’s data with Maryland’s, we used Maryland’s length and value data to estimate the probability that boats in specified size classes were valued at \$300,000 or more. We then used those Maryland-based probabilities to factor boats registered in North Carolina over the period by the same size classes. Summing across size classes provides an estimate of the number of boats in a given year that were valued at \$300,000 or more. The point estimates from this exercise are

reported graphically in Figure 6. Since we use an average probability from Maryland from 2003 to 2012, and apply this central tendency to all years in the North Carolina dataset, it is possible that our estimation approach flattens year to year variance. Clearly, it is less powerful than having the actual market values.

Figure 6: North Carolina \$300,000 and up Point Estimates by Year



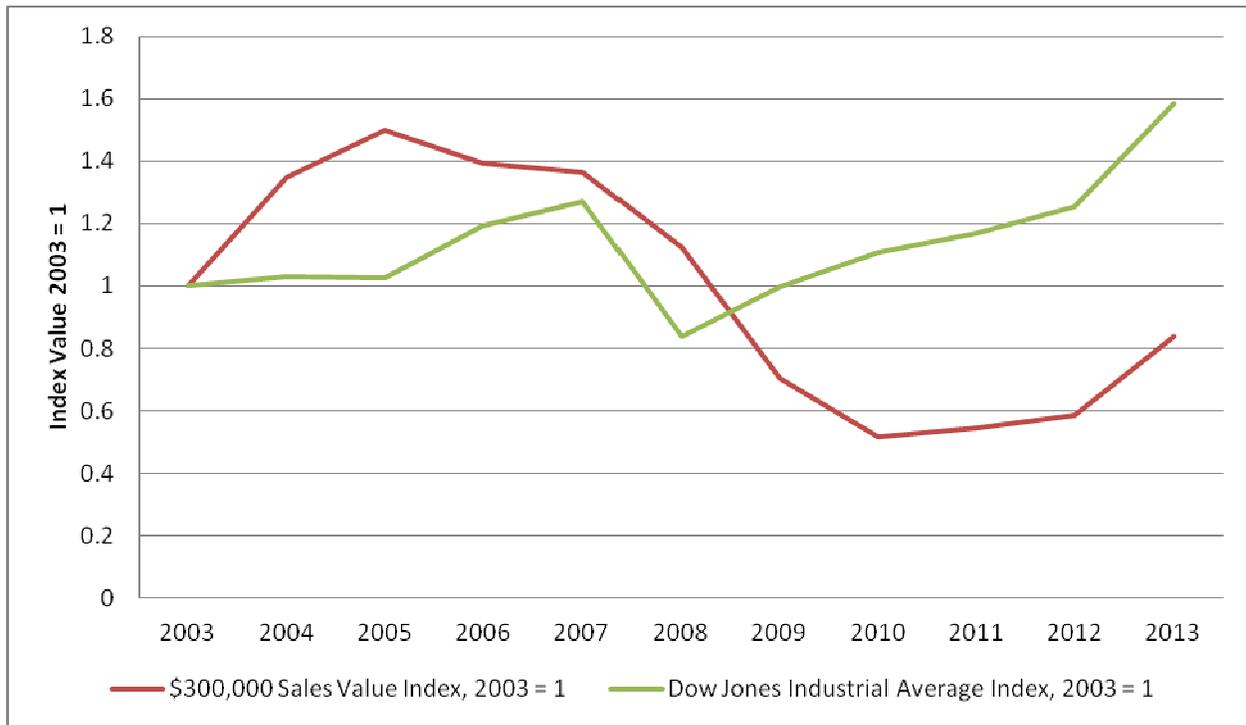
Given the data limitations, what can be inferred from the experiences of neighboring States with regard to higher end registrations in the past year? Virginia’s data shows an increase in registrations of \$300,000 and up boats for the sample in the past year. However, we know that this sample excludes boats that are no longer active in Virginia and we suspect a greater likelihood that boats registered longer ago have left the set. In the most recent years, we see that in Virginia registrations of \$300,000 and up boats were lower in 2013 than in 2012 and that they only rose slightly in 2014. In the North Carolina data, we see that registrations of \$300,000 and up boats have been flat for the past two years but that those registration levels are only off their 2006 high by 17 percent. Maryland’s \$300,000 and up registrations are off their 2006 high by 48 percent, even with the cap.

C. High End Boat Registrations and Macro-Economic Factors

On the basis of intuition and common sense, we may suppose that the drop off in registrations of high end boats from 2006 onward had much to do with changes in wealth resulting from the Great Recession. However, when we test this theory by indexing both high end boat registrations and the Dow Jones Industrial Average (Dow), the linkages are not so apparent.

From 2003 to 2005, even though the Dow was fairly flat, high end boat sales raced upward. Then from 2005 to 2007, while the Dow rose, high end boat sales declined. The decline in the Dow after 2007 is matched by a decline in high end boat registrations, but even after the Dow turns upward again, registrations continue to decline. The relationship between the Dow and high end boat registrations is not immediately obvious from these data.

Figure 7: Index Values of Maryland High End Boat Registrations and the DJIA, 2003 – 2013*



* Calendar years

III. Waterway Improvement Fund and the Health of the Boating Industry in Maryland

VET revenues have been a principal source of funds for Maryland’s Waterway Improvement Fund (WIF). Given credible unmet need for WIF resources and in the face of lower VET revenues, SB-90 requires the State Comptroller to apply 0.5 percent of the State’s Motor Fuel Tax revenue to the WIF, in addition to the VET funds. This requirement became effective June 1, 2013, granting one year of data for this additional funding source. In FY 2014, the Motor Fuel Tax credited to the WIF amounted to \$2,662,644. This additional funding lifted the ratio of the 2014 WIF to about 60 percent of its 2005 balance.

The health of the boating industry in Maryland is a broad topic. At a very high level of generality, its assessment might be approached by way of participation rates. The problem there, however, is that participation rates in Maryland are not known with any precision and, even if they were, we would still be faced with the question of what constitutes an optimal level of participation, given limits to the resource and issues associated with congestion.

Although information is not available for a full market assessment of the boating industry, we are able to report information from the supply side of the market. This information does not permit any analysis of economic welfare but it does provide market information about suppliers of boats and boating support services who are an explicit constituency for SB-90 and are named as participants in its mandated task force.

In July of 2014, Marine Trades Association of Maryland (MTAM) undertook a survey of its members with specific regard to: 1) member’s perception of their market relative to the prior year (i.e., better, worse

or unchanged), 2) investments made over the prior year and 3) investments planned for the coming year. Of its approximately 400 member mailing list, 35 complete survey responses were received.

In response to the question, "In terms of utilized capacity, turnover, and/or income, has business over the past 12 months compared to previous 12 months (6/2012 through 6/2013) been: better, the same, or worse?" 45.7 percent of respondents said better, 37.1 percent said the same and only 17.1 percent said worse. On a strictly numeric basis, among the sample of respondents it appears that suppliers' perceptions about markets for marine trade services have them stable or improving.

In response to the question: "Over the last 12 months, have you made investments in your business such as real estate, capital equipment, or new position personnel?" 54.2 percent said yes and 45.7 percent said no. In response to the question, "Over the next 12 months, do you plan on making investments in your business such as real estate, capital equipment, or new position personnel?" 60 percent of respondents said yes and 40 percent said no.

The small sample size and the high level of generality of the survey questions caution against placing too high a bet on these results. But, given those caveats, these survey results do provide some indication that, for suppliers of marine trade services, the declining trend in boat sales and, presumably, other marine business since 2006 may have leveled and, for some, even turned upward during the past year.

The survey also provided opportunities for comment, which about half the respondents took advantage of. Comments were diverse but consistent with the survey results in that, there appeared to be some reasons for optimism in this market, but not very compelling reasons. The graying of both boaters and marine trade suppliers was noted, along with the general absence of new entrants on either the production or consumption side of the boating market. No respondents spoke of water quality constraints to boating demand.

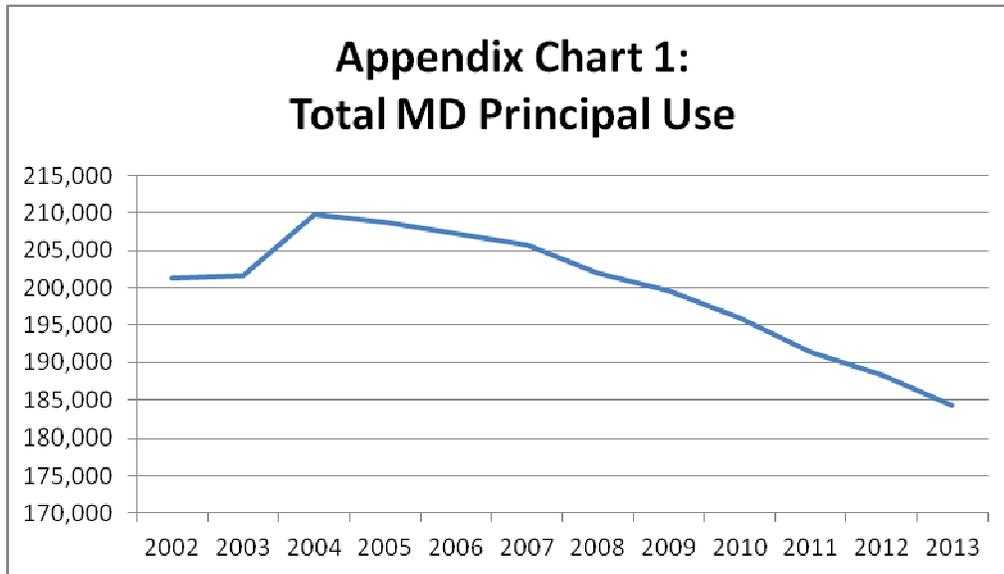
Appendix: Maryland Boat Registrations by Type and Year

In the following table and charts we report data on boats for which Maryland is the state of principal use (e.g., whether a boat resides in Maryland for a longer share of a given calendar year than it resides in any other state). These data are organized by calendar year and they represent total boats registered, whereas the data in the text reports annual additions to Maryland registered boats, generally, by fiscal year.

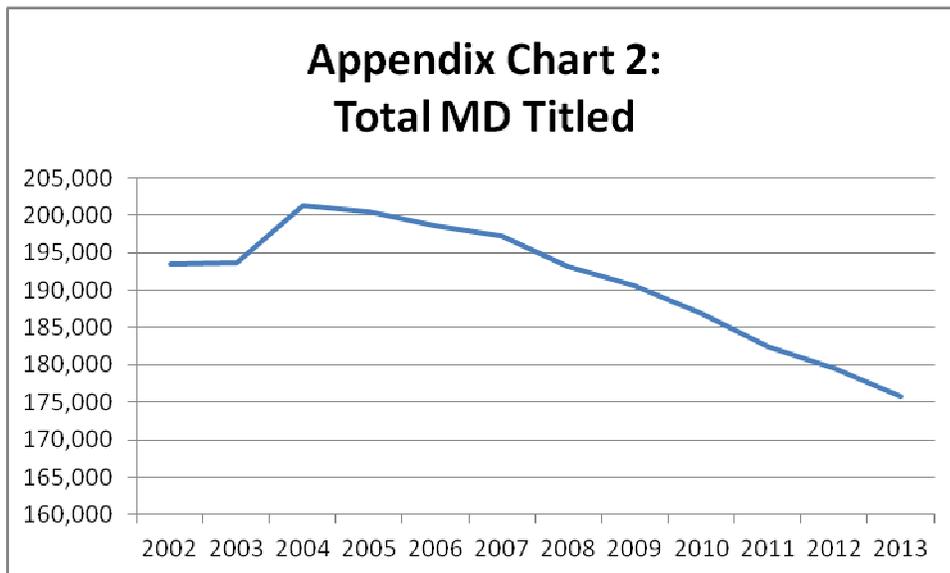
The Charts are based on Table 1. In Table 1, the difference between “Principal Use” vessels and Maryland Titled vessels is Coast Guard documented vessels. Coast Guard documented vessels do not have to show a Maryland registration number. Some recreational boats are gathered into a broad “Other” category, but all of the recreational sub-categories include Coast Guard documented boats in their counts.

Appendix Table 1: Titled and Documented Vessels in Maryland, 2002 (end of year) to 2013 (end of year)

31-Dec	TOTAL MD Principal Use	TOTAL MD Titled	Commercial				Recreational		Power			AUX Sail		Total Other
			Total	Passenger	Fishing	Other	Total Registered	Total	Inboard	Outboard	Sterndrive	Inboard	Outboard	
2002	201,312	193,531	3300	29	506	2,765	198,012	172,787	15,321	111,408	35,775	5,127	5,156	25,225
2003	201,564	193,628	3169	36	593	2,540	198,395	172,583	15,493	110,726	36,046	5,260	5,058	25,812
2004	209,763	201,337	3082	48	661	2,373	206,681	180,002	19,698	110,725	36,687	7,996	4,896	26,679
2005	208,837	200,532	3025	51	758	2,216	205,812	178,613	19,756	110,140	36,266	7,781	4,670	27,199
2006	207,226	198,585	2949	50	841	2,058	204,277	176,722	19,689	109,249	35,607	7,726	4,451	27,555
2007	205,795	197,247	2903	48	911	1,944	202,892	175,244	19,517	108,831	34,960	7,677	4,259	27,648
2008	201,920	193,075	2833	51	941	1,841	199,087	171,573	19,308	107,213	33,379	7,607	4,066	27,514
2009	199,611	190,650	2805	53	987	1,765	196,806	169,735	19,197	106,755	32,406	7,470	3,907	27,071
2010	196,024	186,907	2765	52	1,035	1,678	193,259	166,426	18,172	106,095	31,401	7,003	3,755	26,833
2011	191,362	182,510	2739	47	1,089	1,603	188,623	162,490	17,804	104,257	29,981	6,848	3,600	26,133
2012	188,317	179,548	2691	47	1,116	1,528	185,626	160,038	17,542	103,552	28,755	6,708	3,481	25,588
2013	184,189	175,777	2645	41	1,137	1,467	181,544	156,711	17,197	102,080	27,516	6,565	3,353	24,833
Average	199,660	191,111	2,909	46	881	1,982	196,751	170,244	18,225	107,586	33,232	6,981	4,221	26,508

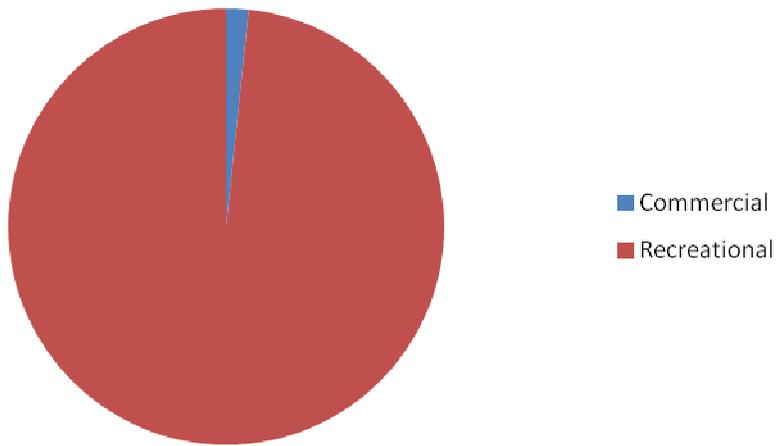


Appendix Chart 1: A 5 % increase from 2003 to 2004 (Calendar Year) and then a gradual decline to 2013.



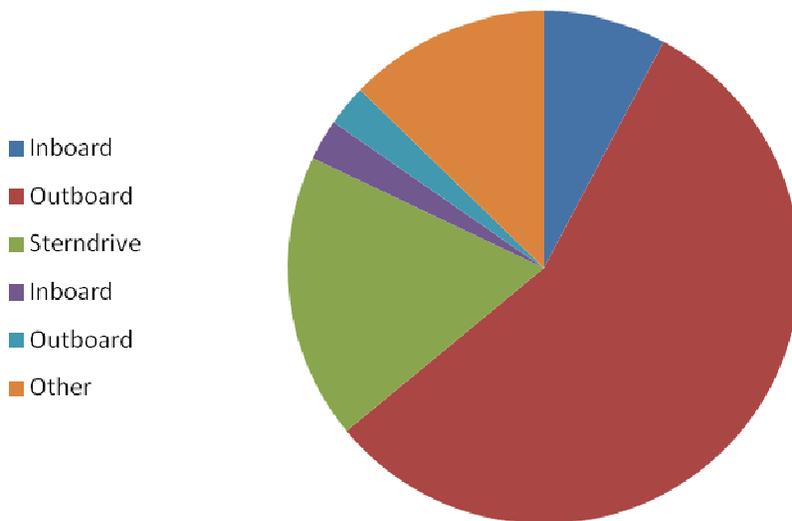
Appendix Chart 2: Total MD principal use is composed of Maryland titled boats and Coast Guard documented boats. Coast Guard documented boats have ranged from 7,781 (in 2002) to 9,117 (in 2010) of the total over the period.

Appendix Chart 3: Total Maryland Principal Use



Appendix Chart 3: Total Maryland Principal Use boats can also be split into commercial and recreational vessels. Clearly, the majority are recreational vessels.

Appendix Chart 4: Recreational Boats



Appendix Chart4: Recreational boats can be further broken into inboard, outboard and sterndrive boats. They also include sailboats with auxiliary power in outboard (lighter blue) or inboard (purple) motors.



Fiscal Analysis of the Cap on the Vessel Excise Tax

Developed by the
University of Maryland Environmental Finance Center

August 2015

Introduction

This report provides a detailed analysis estimating the impact of the \$15,000 tax cap on the vessel excise tax (VET) established by Senate Bill 90 which took effect in July 2013. Maryland imposes a 5% VET calculated on the fair market value or purchase price which, at this tax rate, causes the cap to impact vessels valued above \$300,000. To assess the impact of the excise cap, the analysis uses data provided by the Maryland Department of Natural Resources (DNR). The data provides detailed records of each newly registered boat in Maryland. That is, each record represents an additional vessel declaring Maryland's waters as its primary place of use for that calendar year.¹

This study estimates the cap's impact using two key measures. First is the net change in VET revenue. In principle, the tax cap effectively lowers the cost of registering a boat in Maryland, which should lead to additional vessel registrations. At the same time, the cap lowers the vessel excise tax (VET) revenue collected on a per vessel basis. The analysis focuses on the net change to VET revenue to gauge if the gain in registrations offsets the lower per-vessel tax. The second measure considers economic impacts more broadly. This second measure estimates the how an increase in boating registrations leads to economic gains in the State's economy through boat trip expenditures.

Trends in New Registration

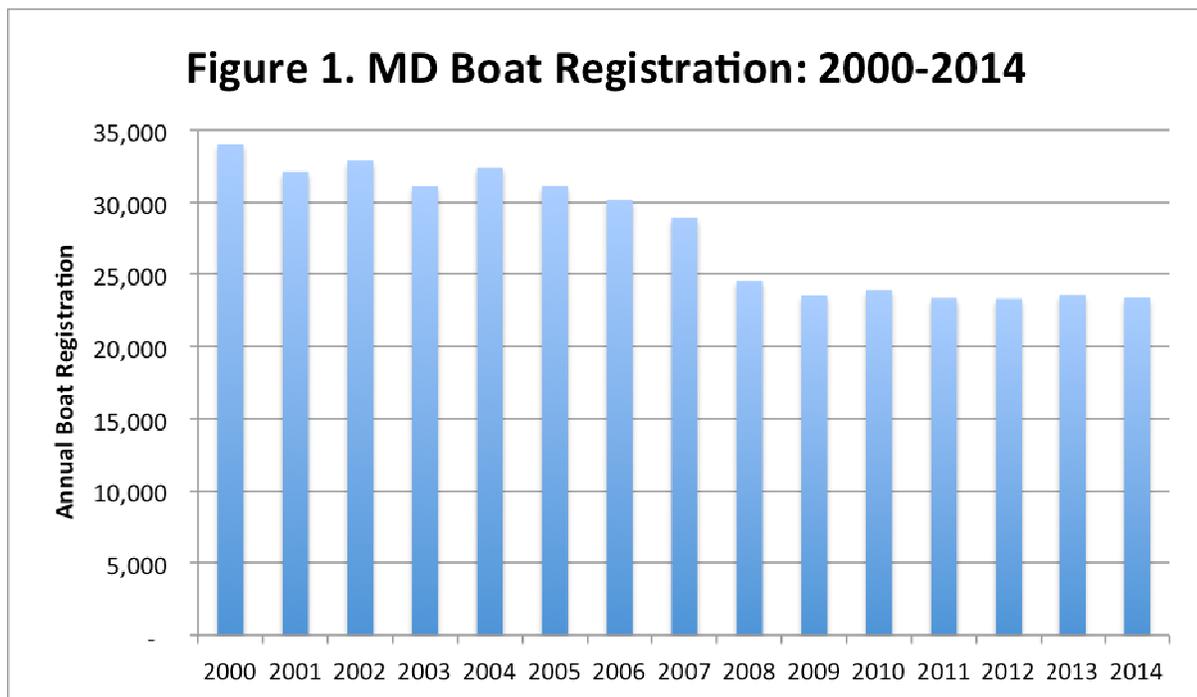
DNR's boating registration data dates back several decades.² Since early 2000, new registrations of vessels have ranged between 23,400 and 34,100 per year, with an annual average of 27,900. Overall, new registrations have been falling. (See Figure 1.) This trend is not unique to Maryland. In other states and nationally, boating participation levels have been falling.

At the start of the period, Maryland had just over 34,000 new registrations. By 2014, annual registrations had fallen to around 23,400. The downward trend in new registration has slowed since the

¹ The analysis concentrates on new registrations because the vessel excise is a one-off tax. For example, the first time a vessel registers in Maryland, it is subject to the excise. If that vessel was then registered in another state and subsequently returned to Maryland as its state of principal use, it would not be subject to the excise tax again.

² For the purposes of this analysis, selected data covers the period January 2000 to mid-May 2015 (inclusive) and has 418,474 records.

US economy emerged from the 2008 recession. From 2000 to 2008, registration levels fell by just over 2% per annum. After the 2008 recession, annual registration has been holding relatively steady.



Estimating the Impact of the Excise Cap on VET Revenue

Estimating the impact of the excise cap requires constructing a baseline. The baseline presents a scenario of what registrations would have looked like without the excise cap in effect. It is the difference between what is observed in the new registration data and this baseline that reflects the change – or impact of the excise cap. This baseline requires two key pieces of information:

- (1) estimate of the average net purchase price for vessels valued in excess of \$300,000; and
- (2) estimate of the number of registrations that would have occurred without the cap.

The excise cap effectively lowers the cost of the boats. In principle, this lower cost should stimulate an increase in the demand for boats, specifically those with a net purchase price in excess of \$300,000. Table 1, below, shows the relationship between boat value and the excise with the tax cap in effect. As the value of the vessel increases the effective excise rate falls, and the avoided excise increases. For a boat valued at \$350,000, the savings is \$2,500, reducing the effective tax rate from 5% to 4.3%. At \$400,000, the effective tax rate is lowered to 3.8%. For a vessel valued at \$500,000, the cap reduces the tax liability by \$10,000 and lowers the effective tax rate by 2%.

At face value, the extent to which the tax savings offsets total expenditures (marginal increase in vessel value) does not seem sufficiently strong to induce demand for a more expensive vessel. For example,

spending an additional \$50,000 on a vessel saves only an additional \$2,500. However, one study on boating choice suggests that high wealth individuals have a strong reaction to tax savings.³

Table 1. Excise Actual and Effective by Boat Value

Boat Value	Excise at 5%	Cap savings	Effective tax rate
<\$300,000	<\$15,000	\$0	5%
\$300,000	\$15,000	\$0	5%
\$350,000	\$17,500	\$2,500	4.3%
\$400,000	\$20,000	\$5,000	3.8%
\$500,000	\$25,000	\$10,000	3.0%
\$750,000	\$37,500	\$22,500	2.0%
\$1,000,000	\$50,000	\$35,000	1.5%

The following examines new registration data in more detail to identify the effect the excise cap had on boat registration and VET revenue.

The excise cap affects a very small share of new registrations. Table 2 summarizes the registration data to show the composition of new registrations by vessel value. Over a 15-year period from 2000-2014, the data set reported over 418,400 new registrations. Of these, vessels valued at \$300,000 or higher account for less than half a percent of all new registrations (1,673). Annually, this category of boats averages around 110 registrations. In contrast, almost 90% of all new registrations during this period involved boats valued at less than \$30,000. Given the small number of affected registrations, it would be surprising if the effect of the cap could be detected looking at the overall level of new annual boat registrations.

Table 2 also shows that boats valued over \$300,000 have a disproportionate share of the total VET revenue. Less than 0.5% of new registrations accounted for nearly 10% of VET revenue. Since 2000, boats valued in excess of \$300,000 accounted for nearly 16,000 registrations. VET revenue generated by these new registrations is just over \$32.5 million. This relationship between registration and VET revenue suggests that a small change among high valued boats can potentially have noticeable effect on VET revenue.

The analysis offers a careful comparison of trends in new registrations for vessels valued between \$300,000 and \$349,999. The data showed new registrations of vessels in this value category follow patterns similar to vessels valued between \$200,000 and \$299,999. Based on how closely the new registrations and prices behaved and the relatively small impact of the cap on the effective tax rate, the analysis focuses on vessels valued in excess of \$350,000.⁴

³ Lipton, Douglas. 1999. "Boat Location Choice: The Role of Boating Quality and Excise Taxes" *Coast Management*, 27:1, 81-89.

⁴ The analysis assumes that the excise cap did not impact new registrations for vessels valued between \$300,000 and \$349,000. The average purchase price for this category was around \$321,000. As a result, the estimated loss to VET revenue is around \$55,000 over two years.

Table 2: Net Boat Value Category: Registrations and Paid Excise from 2000 - 2014

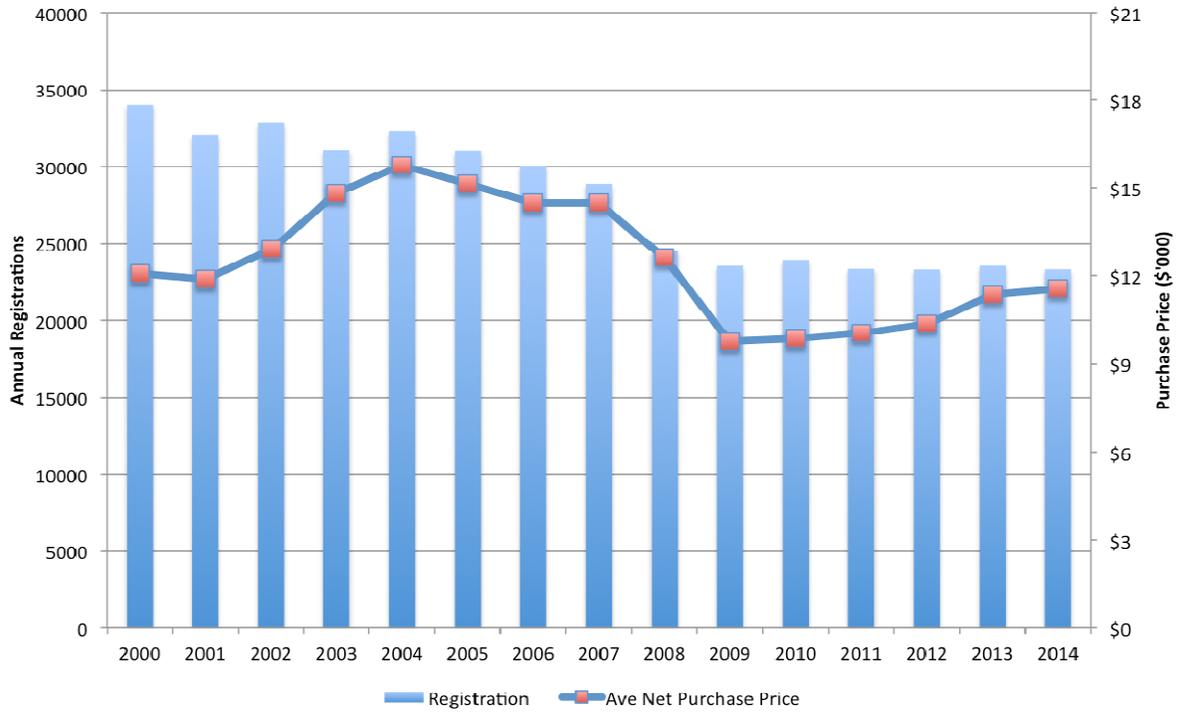
Net Purchase Price Category	Registration		Ave Net Purchase Price	Excise Paid		
	Total	Ave Annual		Cumulative Share	Ave Annual Excise Paid	Cumulative Share
\$0 – \$49	31,463	2,098	\$2	8%	\$1	0.01%
\$ 50 – \$99	3,319	221	\$55	8.3%	\$5	0.02%
\$ 100 – \$499	80,817	5,388	\$200	28%	\$9	0.3%
\$ 500 – \$999	52,796	3,520	\$615	40%	\$29	0.9%
\$ 1,000 – \$4,999	98,309	6,554	\$2,250	64%	\$106	5%
\$ 5,000 – \$9,999	44,775	2,985	\$7,145	74%	\$331	10%
\$10,000 - \$19,999	40,858	2,724	\$14,085	84%	\$655	21%
\$20,000 – \$29,999	19,805	1,320	\$24,230	89%	\$1,121	29%
\$30,000 – \$39,999	11,651	777	\$34,290	92%	\$1,579	36%
\$40,000 – \$49,999	7,289	486	\$44,370	93%	\$2,024	42%
\$50,000 – \$59,999	4,855	324	\$54,335	95%	\$2,448	46%
\$60,000 – \$69,999	3,602	240	\$64,285	95.5%	\$2,873	50%
\$70,000 – \$79,999	2,700	180	\$74,345	96%	\$3,259	53%
\$80,000 – \$89,999	2,119	141	\$84,195	96.6%	\$3,683	56%
\$90,000 – \$99,999	1,628	109	\$94,510	97%	\$4,179	59%
\$100,000 – \$149,999	5,745	383	\$121,605	98%	\$5,377	71%
\$150,000 – \$199,999	2,795	186	\$170,810	99.1%	\$7,507	79%
\$200,000 – \$249,999	1,453	97	\$222,060	99.4%	\$9,694	84%
\$250,000 – \$299,999	822	55	\$272,520	99.6%	\$12,057	88%
\$300,000 – \$349,999	543	36	\$321,575	99.7%	\$14,327	91%
\$350,000 – \$399,999	334	22	\$371,115	99.8%	\$16,493	93%
\$400,000 +	796	53	\$621,680	100%	\$24,151	100.00%
Total	418,474	27,898	\$14,130		\$564	

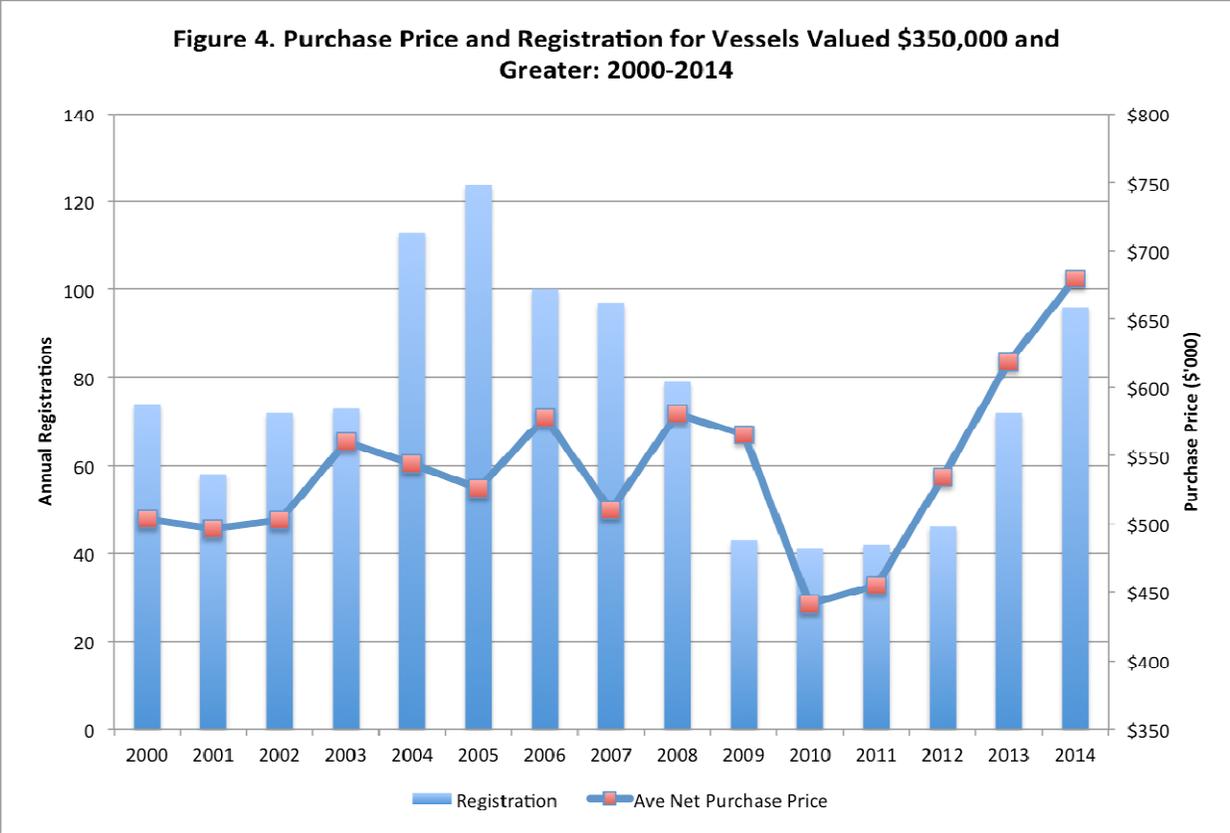
Note: All values reported in nominal dollars.

The Figures 3 and 4 segment new registration data into two categories. Figure 3 shows trends for boats with a net purchase price that is less than \$350,000; Figure 4 shows trends for vessels valued at \$350,000 and higher. When looking at these trends, it is important to note that despite the recession officially ending in 2009, the economy is still recovering. With the recovery, new registration numbers have stabilized, holding around 23,500 annually. With only one complete calendar year since the excise cap was implemented, there is little evidence to suggest whether new registrations will pick up or continue trending downward.

Comparisons across the graphs show that these two groups behave differently. For vessels valued under \$350,000, purchase price and new registration levels have tracked together since the early 2000s. Both exhibit a general downward trend leading into the 2008 recession and appear relatively stable since 2009. Average net purchase price fell from a high near \$16,000 to a low around \$10,000. New registration levels also fell leading up to the recession. Since 2009, new registrations of boats valued less than \$350,000 have been relatively constant around 23,000 per year.

**Figure 3. Purchase Price and Registration for Vessels Valued Less Than \$350,000:
2000-2014**





In contrast, vessels valued at \$350,000 and greater show greater volatility in annual prices and new registrations. Annual registration peaked in 2005 and then fell to a low in 2010. Net purchase price did not follow the same dramatic increase in 2005. Prices did, however, fall substantially. Pre-2008 recession prices were around \$550,000 and fell to around \$450,000 post-2008 recession.

Based on the trends, the excise cap may have had an impact. Table 3 provides year-on-year changes for 2011 to 2014. The two years of data where the excise cap was in effect (2013 and 2014) show dramatic growth in both annual registration and average net purchase price. However, the table also shows that 2012 was a transition year. It registered growth in price registration numbers. This pattern confounds the analysis, making it difficult to ascertain how much of the growth seen in 2013 and 2014 can be attributed to the excise cap.

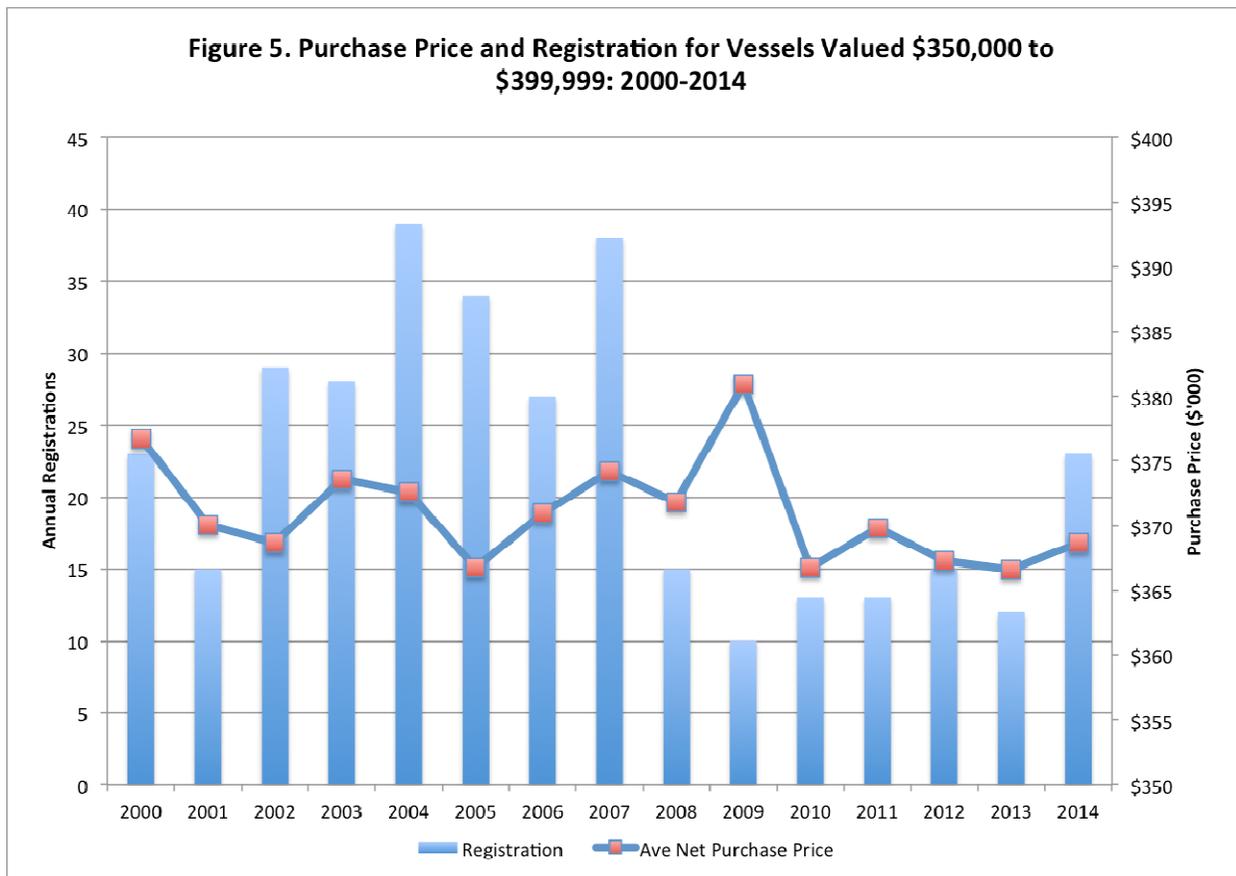
Table 3. Boats Valued at \$350,000 and Greater: Year-on-Year Change

Year	Registration		Average Net Purchase Price	
	Count	Yr-on-Yr Change	Price	Yr-on-Yr Change
2011	42	2%	\$455	3%
2012	46	10%	\$534	17%
2013	72	57%	\$618	16%
2014	96	33%	\$679	10%

Figures 5 and 6, below, further segment the vessels valued at \$350,000 and greater. The first segment is vessels valued between \$350,000 and \$399,000. Historically, this category of vessels has very low levels of new registration. From 2000 to 2014, it ranges from 12 to 39 per year. Figure 5 highlights that registration fell in 2013 by only two vessels. Then, new registrations picked up in 2014, nearly doubling. During this time, boat purchase price changed marginally, staying around \$367,000.

Without further information about how vessel owners make purchase decisions, it is difficult to explain what drove these results. One possible explanation is “switching,” in other words, in light of the excise cap, a handful of individuals planning to purchase a boat in this value range opted to purchase a more expensive vessel (i.e., purchase price greater than \$400,000) in 2013. As a result of this decision, the number of newly registered boats with a net purchase price greater than \$400,000 would increase and the number of newly registered boats with a net purchase price between \$350,000 and \$400,000 would decrease. These changes are seen in Figures 5 and 6.

Because the tax savings does not offset the increased boat price, it is reasonable to expect that the market would normalize after excise cap’s initial implementation. As a result, the “switching” would be less significant, and the number of registrations would return to baseline conditions. This data fits this pattern of behavior. The registrations in 2014 are close to what would be expected had the change in registration observed in 2012 continued.



The analysis builds a baseline scenario based on this theory of “switching” since it fits what is observed in the data. Table 4 summarizes actual and baseline changes. The baseline scenario assumes that the introduction of the excise cap did not affect purchase price, rather it only impacted the number of registrations.

Table 4. Boats Valued between \$350,000 and \$399,000: Actual and Baseline

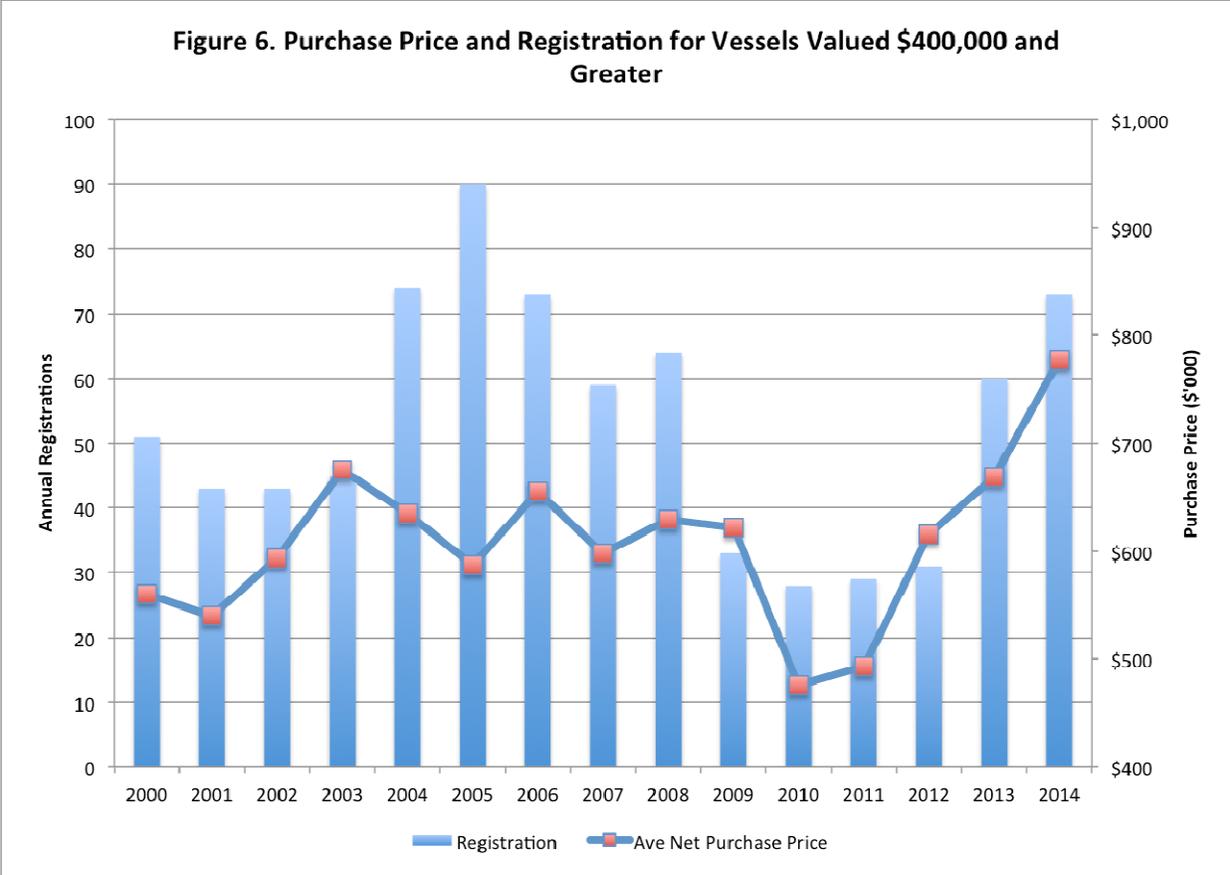
Year	Actual New Registrations		Baseline	Average Net Purchase Price	
	Count	Yr-on-Yr Change	New Registrations	Price	Yr-on-Yr Change
2011	13	0%		\$370	1%
2012	15	15%		\$367	-1%
2013	12	-20%	17	\$367	0%
2014	23	92%	20	\$369	1%

Based on the table above, the excise cap resulted in net loss to VET revenue from this boat value category. The estimated total loss is relatively small, approximately \$154,000 over the two years. It arises from two effects: (1) the excise cap resulting in fewer than expected registrations, and (2) the cap lowering the effective excise rate. Table 5 summarizes the change in VET revenue under the actual and baseline scenarios.

Table 5. Change in VET Revenue for Vessels Valued \$350,000 - \$399,999

Year	Actual	Baseline	Change to VET revenue
2013	\$180,000	\$311,950	- \$131,950
2014	\$345,000	\$367,000	- \$22,000
Total	\$525,000	\$678,950	- \$153,950

Figure 6 shows the trends in registration and average purchase price for vessels valued greater than \$400,000. Annual registration and purchase price did not track together in the period preceding the 2008 recession. While annual registration increased from 2002 to 2006, average purchase price was falling. In the few years leading up to the recession, new registration levels generally fell and purchase price bounced around just below \$650,000. Post-2008 recession, new registration levels were fairly flat, around 30 per year; however, purchase price was increasing. The change from 2010 to 2011 was a small increase. The change from 2011 to 2012 was very strong (\$493,000 and \$615,000, respectively).



In the two years where the excise cap has been in effect, new registration was on par with pre-recession levels. Purchase price for both years were higher than historical levels. The average net purchase price in 2014 was just under \$780,000. This average is 60 percent higher than the low in 2010 (around \$476,000).

Table 6 summarizes how new registrations and net purchase price has changed since 2011. The table shows that new registrations from 2012 to 2013 almost doubled. This increase is striking given the year-on-year changes in 2011 and 2012. 2014 continued the growth with new registration increasing by 22%. The analysis attributes this growth in registration to the excise cap. The baseline scenario estimates new registrations in 2013 and 2014 increasing but at a pace more comparable to 2011 and 2012 (7% per annum).

The average net purchase price shows stronger than expected growth in 2012 and 2014 but not in 2013. Given the historic year-on-year variation in price, the baseline scenario assumes that prices would have increased but not as quickly as observed. It also attributes some of the strong price growth to the excise cap. Purchase prices for 2013 and 2014 in the baseline are also estimated to grow at roughly 7% per annum.

Table 6. Boats Valued \$400,000 and Greater: Actual and Baseline

Year	Actual				Baseline	
	New Registration		Ave Net Purchase Price		Count	Price
	Count	Yr-on-Yr Change	Price	Yr-on-Yr Change		
2011	29	4%	\$493	4%		
2012	31	7%	\$615	25%		
2013	60	94%	\$669	9%	33	\$679
2014	73	22%	\$777	16%	36	\$727

Based on the table above, the excise cap resulted in a net loss to VET revenue from the \$400,000 and greater boat value category. The estimated total loss is approximately \$434,000 over the two years. This loss arises because the increase in registrations is not large enough to offset the lower effective excise rate. Table 7 summarizes the change in VET revenue under the actual and baseline scenarios.

Table 7: Change in VET Revenue for Vessels Valued \$400,000 and Greater

Year	Actual	Baseline	Change to VET revenue
2013	\$900,000	\$1,120,350	-\$220,350
2014	\$1,095,000	\$1,308,600	-\$213,600
Total	\$1,995,000	\$2,428,950	-\$433,950

Net Impact to VET Revenue

The net impact of the excise cap on VET revenue is \$588,000.⁵ VET revenue loss in 2013 was around \$152,000, and then the loss increased in 2014 to \$434,000. The excise cap appears to have positively impacted the number of newly registered, high-valued boats in Maryland. Most of this increase is estimated for boats with a net purchase price greater than \$400,000. Over the two years, this value category is estimated to have nearly doubled, resulting in over 60 additional registrations. In contrast the impact on vessels valued between \$350,000 and \$399,999, is mixed. New registrations over the two years are slightly lower due to some individuals switching to a higher valued boat due to the excise savings.

Despite the overall increase on new registrations, VET revenue is lower. This net loss is due to the increase in registration not being large enough to offset the lower effective tax rate. In order for impact to VET revenue to be neutral, almost 80 additional registrations of vessels valued over \$400,000 are needed. For vessels valued between \$350,000 and \$399,999, the cap has a much smaller impact on the effective tax rate. As a result, less than 10 additional registrations between 2013 and 2014 would have been needed for the cap to be revenue neutral.

⁵ As noted in an earlier footnote, the analysis was not able to determine if the cap has an effect on new registrations for vessels valued between \$300,000 and \$350,000. Assuming the cap did not impact the level of new registrations, the net loss of VET revenue was approximately \$55,000 over two years.

Estimating the Impact of the Excise Cap on Maryland's Economy

While the excise cap resulted in a net loss to VET revenue, the analysis estimates that the cap has an overall positive impact on the total number of boats registering in Maryland. Each additional registration represents a new vessel being used in Maryland.

To estimate how the change in new registrations impacts the State's economy, the analysis estimates the economic gain from the boating trip expenditures associated with each new registration. The analysis focuses on the change associated with registrations for vessels valued \$400,000 and higher. It does not account for changes in boats valued between \$350,000 and \$399,999, because the change in 2013 and 2014 of new registrations nearly cancels each other out.

The increase in boating registrations is assumed to lead to increased boating activity. To estimate how expenditures associated with boating activity impact the economy, the analysis relies on estimates of boat trip frequency and boat trip spending.

The Maryland DNR recently sponsored a survey of individuals that own high valued boat.⁶ In this study, Maryland boat owners reported taking an average of 25 trips per year. This figure is consistent with an earlier survey of Maryland boat owners, where the mean number of trips per boater ranged between 24 and 27 annually.⁷

The DNR study did not include information on trip spending patterns. As a result, this analysis conducted a literature review focused on economic impact studies of recreational boating.⁸ One of the most recent studies was conducted in 2012 in Virginia. Following this study's approach, this analysis applies an average expenditure of \$1,500 per boating trip. Table 8 summarizes how trip expenses are allocated.

⁶ Responsive Management, 2015. *Boat Owner Opinions on Factors Influencing their Decisions on Which States in Which to Register Their Boat.*

⁷ Lipton, Doug and Scott Miller. 1993. *Recreational Boating in Maryland: An Economic Impact Study.* Prepared for the Marine Trades Association of Maryland and the Boating Administration, Maryland Department of Natural Resources.

⁸ Harding, David, et. al. 2009. *Florida Boating Access Facilities Inventory and Economic Study.* August 2009
Lipton, Douglas. *Boating 2000: A Survey of Boater Spending in Maryland – A Maryland Sea Grant Report.*
Murray, Thomas. *Assessment of the Economic Impacts of Recreational Boating in Virginia.* December 2012
Starbuck, Kimberly; Lipsky, Andrew, et. al. 2012 *Northeast Recreational Boater Survey: A Socioeconomic and Spatial Characterization of Recreational Boating in Coastal and Ocean Waters of the Northeast United States.* December 2013.

Table 8. Allocation of Trip Expenses

Expense type	Share of Trip Expenses	Expense
Groceries	12%	\$185
Boat Fuel Costs	29%	\$440
Fishing Supplies	16%	\$245
Boat Launch	3%	\$45
Equipment Rental	0.80%	\$10
Other Boat Supplies	18%	\$275
Lodging	4%	\$65
Restaurant	10%	\$155
Other	5%	\$80

The analysis estimates that in 2013 boat trip spending increased by nearly \$1.1 million and \$1.4 million in 2014. This increase reflects the additional boat registration, plus each new registration raises trip spending by roughly \$39,000 per year. Table 9 summarizes how this increase in boat trip spending flows through the Maryland economy. In 2013, trip spending supported approximately 16 full-time equivalent jobs and contributed \$1.1 million to the State's economy. In 2014, these impacts were slightly higher as a result of more boat purchases. Nearly 20 full-time equivalent jobs and almost \$1.4 million in economic growth occurred.

Table 9. Impact of Boat Trips on Maryland's Economy

	2013	2014	Total
Employment	16	20	36
Total Income (\$'000)	\$630	\$660	\$1,290
Total Output (\$'000)	\$1,130	\$1,430	\$2,560

Conclusions

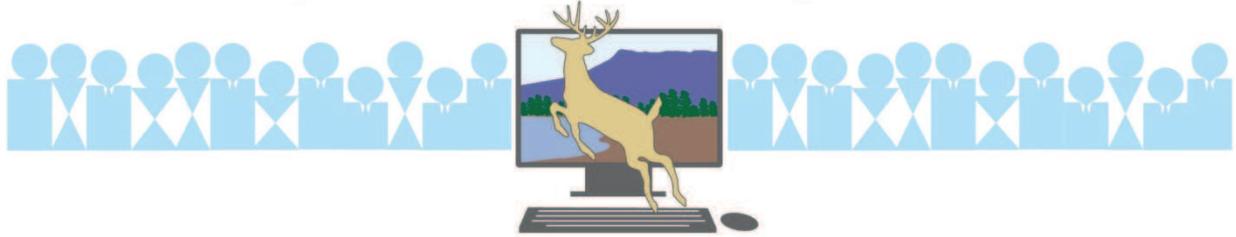
Based on the above analysis, the \$15,000 tax cap on the vessel excise tax had the following effects.

- The growth in new registrations for vessels with a net purchase price of \$400,000 or greater was much stronger than an expected. This increase is likely due to the excise cap. This increase in new registrations, however, was not enough to offset the loss in VET revenue as a result of the cap lowering the per-vessel tax collection.
- The cap's impact on new registrations of vessels valued between \$350,000 and \$399,999 is mixed. After an initial drop in 2013, the analysis finds that the cap may have led to an increase in the number of new registrations in 2014. Again, the net impact on VET revenue is estimated to be negative.
- The total loss in VET revenue due to the tax cap is approximately \$588,000 over two calendar years (2013 and 2014).
- While the tax cap had a negative impact on VET revenue, the increase in new registrations does have a positive impact on the Maryland economy through increased boating activity.
- The increase in new registration may have generated over \$1 million in direct spending in the Maryland economy that has a multiplier effect lifting output by nearly \$2.5 million over two years.

Appendix 4

Boater Attitude Survey Findings

Responsive Management™



BOAT OWNERS' OPINIONS ON FACTORS INFLUENCING THEIR DECISION ON WHICH STATE IN WHICH TO REGISTER THEIR BOAT

**Conducted for the Maryland Department of Natural Resources
and the University of Maryland's Environmental Finance Center**

by Responsive Management

2015

BOAT OWNERS' OPINIONS ON FACTORS INFLUENCING THEIR DECISION ON WHICH STATE IN WHICH TO REGISTER THEIR BOAT

2015

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INTRODUCTION AND METHODOLOGY

This study was conducted for the Maryland Department of Natural Resources (hereinafter referred to as the Department) and the University of Maryland's Environmental Finance Center (hereinafter referred to as the EFC) to determine the extent to which various factors influence boat owners to register their vessel in a particular state. A key objective of this project was to explore whether a cap on the Maryland vessel excise tax that occurred in 2013 encouraged boaters to register a vessel in Maryland specifically. The study entailed a scientific multi-modal survey of owners of boats valued at \$100,000 or more registered in Maryland or in various other states. Specific aspects of the research methodology are discussed below.

USE OF A MULTI-MODAL SURVEY

A multi-modal survey was chosen to allow boat owners the most convenience in completing the survey and to increase response rates.

QUESTIONNAIRE DESIGN

The survey questionnaire was developed cooperatively by Responsive Management, the Department, and the EFC, based on the research team's familiarity with boating issues and outdoor recreation studies in general. Although the main objective of the survey was to assess attitudes toward Maryland's vessel excise tax as well as excise, sales, and use taxes on boats in general, the survey was presented as a nonspecific study on recreational boating issues. As such, the survey began with a series of general questions addressing boating participation, satisfaction with boating, and items of importance when deciding where to moor a boat.

Responsive Management conducted pre-tests of the questionnaire to ensure proper wording, flow, and logic in the survey.

SURVEY SAMPLE

Two survey samples were obtained for the study. The first sample consisted of a database of boat owners whose vessels were registered in Maryland, and the second sample consisted of a database of boat owners whose vessels were registered in other states, primarily Virginia, New Jersey, and Delaware. The Maryland boater registration database was provided by the Department; Responsive Management obtained the other database from Info-Link Technologies, Inc., a firm specializing in marketing lists and survey samples specific to the boating industry.

In the Maryland database, only those boat owners who had registered a boat valued at \$100,000 or more since January 2010 were included in the survey sample. The database of other state registrants contained owners of vessels with a model year of 2005 or later and whose boat was at least 25 feet in length, and all of these individuals were included in the non-Maryland sample. The restrictions based on model year and length served as a proxy for expected boat value. Nonetheless, for all respondents, an initial screener question in the survey confirmed that the respondent currently owned a boat valued at \$100,000 or more. Current state of registration for the boat was also determined in the survey.

CONTACT PROCEDURES AND SURVEY ADMINISTRATION

Boat owners were contacted using one of three modes—a telephone call, a letter, or an email, based on the valid contact information available for the boater—to introduce the survey and

encourage them to complete it (see the Appendix for a copy of the letter and the text of the email). Both the letter and email were sent on Department letterhead and were signed by the Department's Director of Boating Services, which helped to legitimize the study and increase response rates (telephone interviewers said that they were calling on behalf of the Department and the EFC). Letter and email recipients were encouraged to complete the survey online using a URL address. A toll-free number was made available to letter recipients and an email address was made available to email recipients so that both letter and email recipients who needed assistance with the online survey or who preferred to complete it by telephone could contact Responsive Management directly. Each potential respondent was assigned a unique identification number to track progress in the survey and to ensure that each boat owner took the survey only once. Reminder emails were sent and telephone calls were made to encourage participation, and all potential respondents were offered the choice of completing the survey online or over the telephone.

In total, Responsive Management obtained 568 completed interviews, including 424 with owners of boats registered in Maryland, and 144 with owners of boats registered in other states. The table below provides a breakdown of completed surveys by the state of boat registration.

State of Registration	Number of Completed Interviews
Connecticut	1
Delaware	5
Florida	6
Maine	2
Maryland	424
Massachusetts	1
New Jersey	32
New York	2
North Carolina	3
Pennsylvania	1
Rhode Island	1
Vermont	2
Virginia	76
Washington	1
Washington, D.C.	2
Federally documented or Coast Guard documented	9
Total	568

The survey response rate is determined by the proportion of completed interviews within the total eligible respondents. For the sample of owners of boats registered in Maryland, the response rate was 30%. This response rate does not include ineligible respondents, such as those with an invalid telephone number or mailing address, those who no longer owned a boat valued at \$100,000 or more, those whose most valuable boat was valued at *less* than \$100,000, deaf or non-English-speaking individuals, or individuals otherwise unreachable for the survey.

A response rate for the sample of owners of boats registered in other states could not be calculated because of the high number of ineligible potential respondents distributed throughout the various states in the non-Maryland sample.

To better understand the potential effect of nonresponse on the survey results, Responsive Management conducted a nonresponse bias test comparing easy-to-reach people (those who responded during the first or second contact waves) and nonrespondents who were called back and finally reached in a nonresponse bias test. This analysis, essentially a “continuum of resistance,” is based on the premise that hard-to-reach people resemble nonrespondents; in this way, a comparison of the two groups provides insight into the degree to which the characteristics and attitudes of respondents and nonrespondents may differ statistically. The results of this analysis are shown in its own section of the report, “Results of Nonresponse Bias Test.”

SURVEYING DATES AND TIMES

For surveys completed over the web, questionnaires can be completed at any time—at the convenience of the respondent. For telephone surveys, Responsive Management’s surveying times are Monday through Friday from 9:00 a.m. to 9:00 p.m., Saturday from noon to 5:00 p.m., and Sunday from 5:00 p.m. to 9:00 p.m., local time. The survey was administered in June 2015.

DATA ANALYSIS

The analysis of data was performed using Statistical Package for the Social Sciences as well as proprietary software developed by Responsive Management.

Crosstabulations were run on many questions, including crosstabulations by state of boat registration. For this crosstabulation, respondents were categorized into two groups:

- *Boat registered in Maryland:* These are respondents with a boat valued at \$100,000 or more registered in Maryland.
- *Boat registered in other state:* These are respondents with a boat valued at \$100,000 or more registered in a state other than Maryland.

An additional crosstabulation was run based on these two groups:

- *Boat registered in home state:* These are respondents with a boat valued at \$100,000 or more registered in their state of residence.
- *Boat registered in another state:* These are respondents with a boat valued at \$100,000 or more registered in a state other than their state of residence.

As indicated previously, the data analysis included a nonresponse bias test, which is discussed in the section of this report titled, “Results of Nonresponse Bias Test.”

SAMPLING ERROR

Throughout this report, findings of the survey are reported at a 95% confidence interval. For the entire sample of owners of boats valued at \$100,000 or more registered in Maryland, the sampling error is at most plus or minus 4.39 percentage points. The sampling error was calculated using the formula on the next page, with a sample size of 424 and a population size of 2,842 boats in the database valued at \$100,000 or more registered in Maryland since 2010.

Sampling Error Equation

$$B = \left(\sqrt{\frac{N_p(.25)}{N_s} - .25} \right) (1.96)$$

Where: B = maximum sampling error (as decimal)
 N_p = population size (i.e., total number who could be surveyed)
 N_s = sample size (i.e., total number of respondents surveyed)

Derived from formula: p. 206 in Dillman, D. A. 2000. *Mail and Internet Surveys*. John Wiley & Sons, NY.

Note: This is a simplified version of the formula that calculates the maximum sampling error using a 50:50 split (the most conservative calculation because a 50:50 split would give maximum variation).

Sampling error could not be calculated for the sample of boat owners registered in the other states because their respective population sizes (i.e., boats valued at \$100,000 or more registered in each state other than Maryland) are not known.

ADDITIONAL INFORMATION ABOUT THE PRESENTATION OF RESULTS IN THE REPORT

In examining the results, it is important to be aware that the questionnaire included several types of questions:

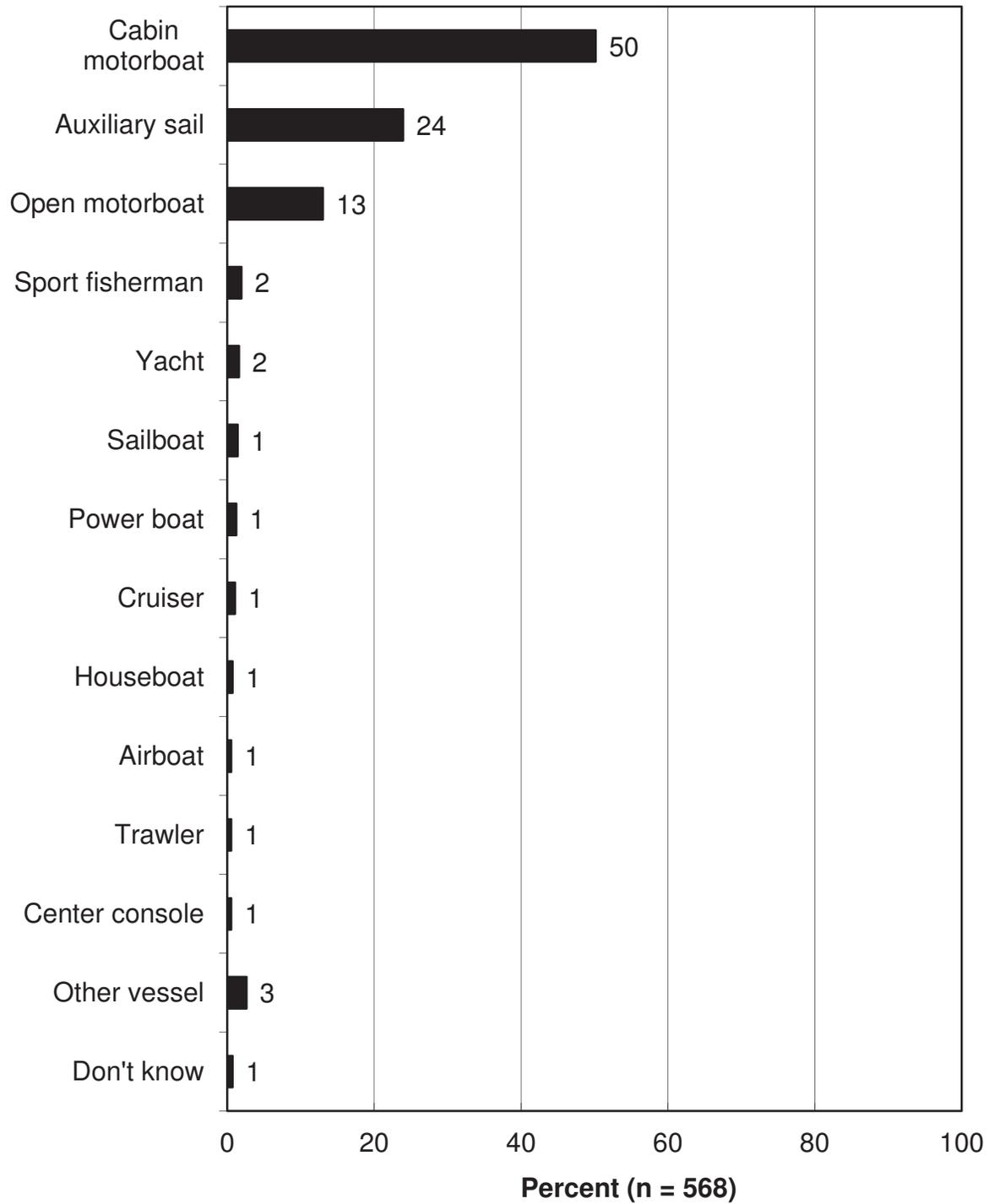
- Open-ended questions are those in which no answer set is read to the respondents; rather, they can respond with anything that comes to mind from the question.
- Closed-ended questions have an answer set from which to choose.
- Single or multiple response questions: Some questions allow only a single response, while other questions allow respondents to give more than one response or choose all that apply. Those that allow more than a single response are indicated on the graphs with the label, "Multiple Responses Allowed."
- Scaled questions: Many closed-ended questions (but not all) are in a scale, such as excellent-good-fair-poor.
- Series questions: Many questions are part of a series, and the results are primarily intended to be examined relative to the other questions in that series (although results of the questions individually can also be valuable). Typically, results of all questions in a series are shown together.

Most graphs show results rounded to the nearest integer; however, all data are stored in decimal format, and all calculations are performed on unrounded numbers. For this reason, some results may not sum to exactly 100% because of this rounding on the graphs. Additionally, rounding may cause apparent discrepancies of 1 percentage point between the graphs and the reported results of combined responses (e.g., when "very satisfied" and "somewhat satisfied" are summed to determine the total percentage satisfied).

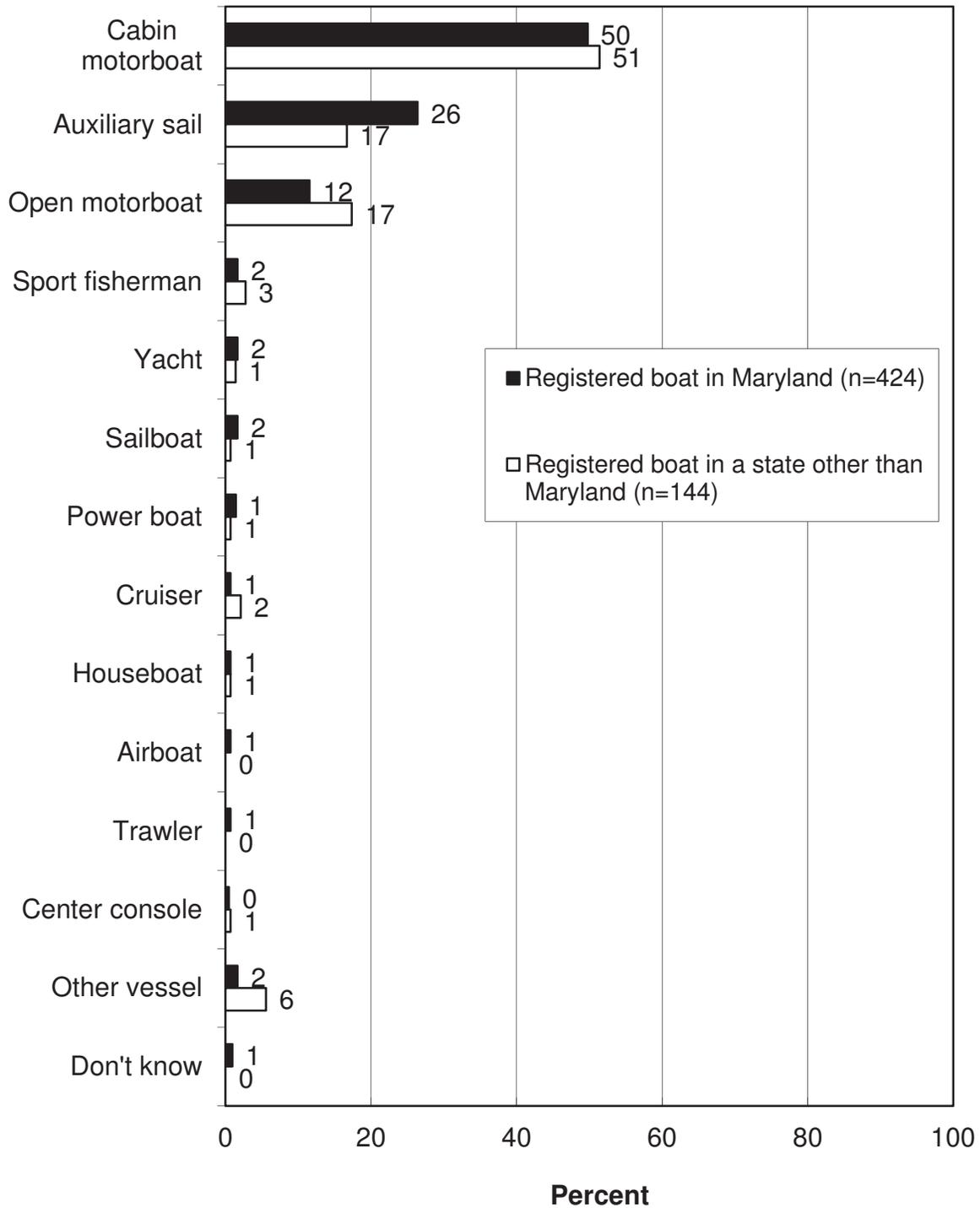
GENERAL BOATING CHARACTERISTICS AND PARTICIPATION

- A graph shows the types of boats represented in the survey: cabin motorboats make up half of the boats (50%), followed by auxiliary sailboats (24%) and open motorboats (13%). Note that the survey was specific to (and respondents were consistently reminded that the survey pertained to) their *boat of greatest value* that they owned.
 - Another graph separates boats registered in Maryland and those registered elsewhere; results are similar in that the three most important types are cabin motorboats, auxiliary sailboats, and open motorboats, although the percentages slightly differ (Maryland registered boats have a greater percentage of auxiliary sailboats and a lower percentage of open motorboats, compared to boats registered elsewhere).
- The boats represented in the survey among the Maryland-registered sample are about evenly split between Class 2 boats (50%) and Class 3 boats (47%), with just a few boats of other classes. The out of state registration sample excluded all boats of less than 25 feet, so the question results are not shown for them.
- Nearly all the boats represented in the survey are for personal use (99%).
- The mean annual number of trips taken is 25.0 overall, 25.5 among boat owners whose boats are registered in Maryland, and 23.6 among boat owners whose boats are registered outside of Maryland.
- The primary activities of boaters on the boats that are the subject of this survey (i.e., their most valuable boat) are cruising on day trips (45% do this), cruising on overnight trips (38%), and fishing and/or hunting (12%).
 - There are slight differences between those whose boat is registered in Maryland and those whose boat is not. Maryland-registered boats are more often used for overnight trips and less often used for fishing/hunting, compared to non-Maryland boats.
- Finally in this section, boaters were asked if their boating participation has increased, stayed the same, or decreased over the past 5 years. Just over half of boaters overall (51%) said that their boating has increased over the past 5 years, while only 10% said it has decreased.
 - Those whose boat is registered in Maryland are slightly more likely to say that their boating has increased over the past 5 years, compared to those whose boat is registered outside of Maryland.
 - Typical reasons for decreased participation include age/health, family or work obligations, and cost.

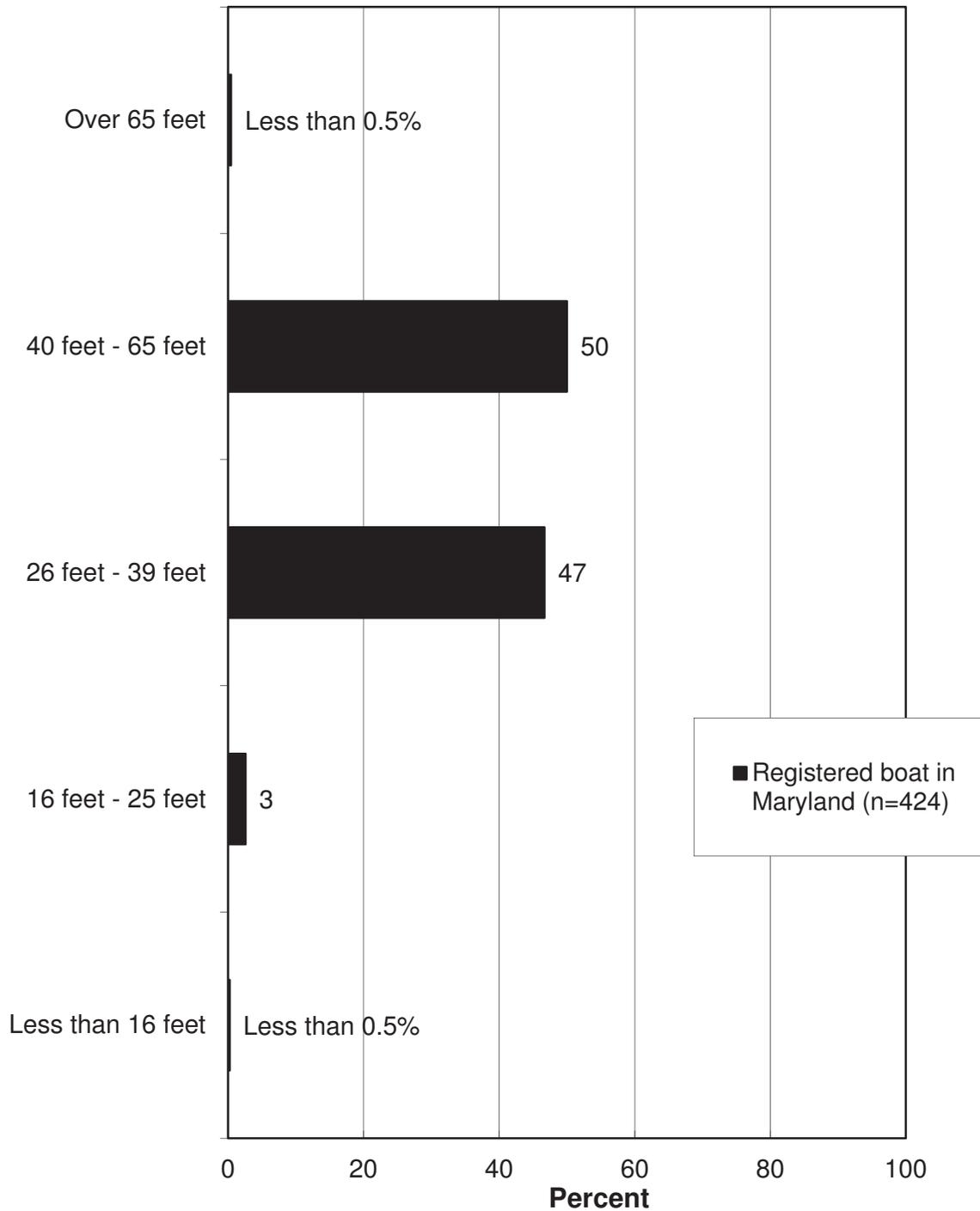
What type of boat is this? (Refers to their most valuable boat.)



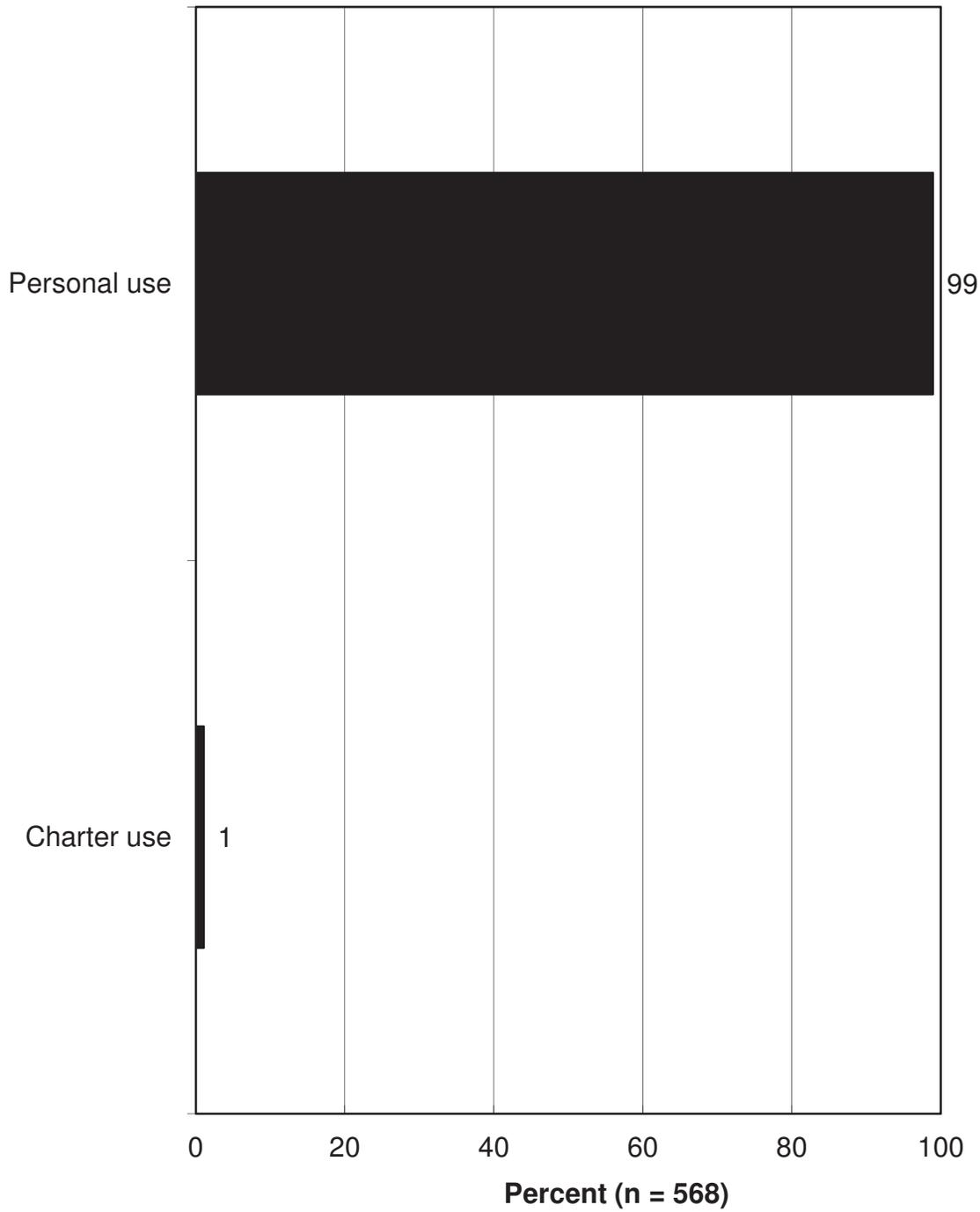
What type of boat is this? (Refers to their most valuable boat.)



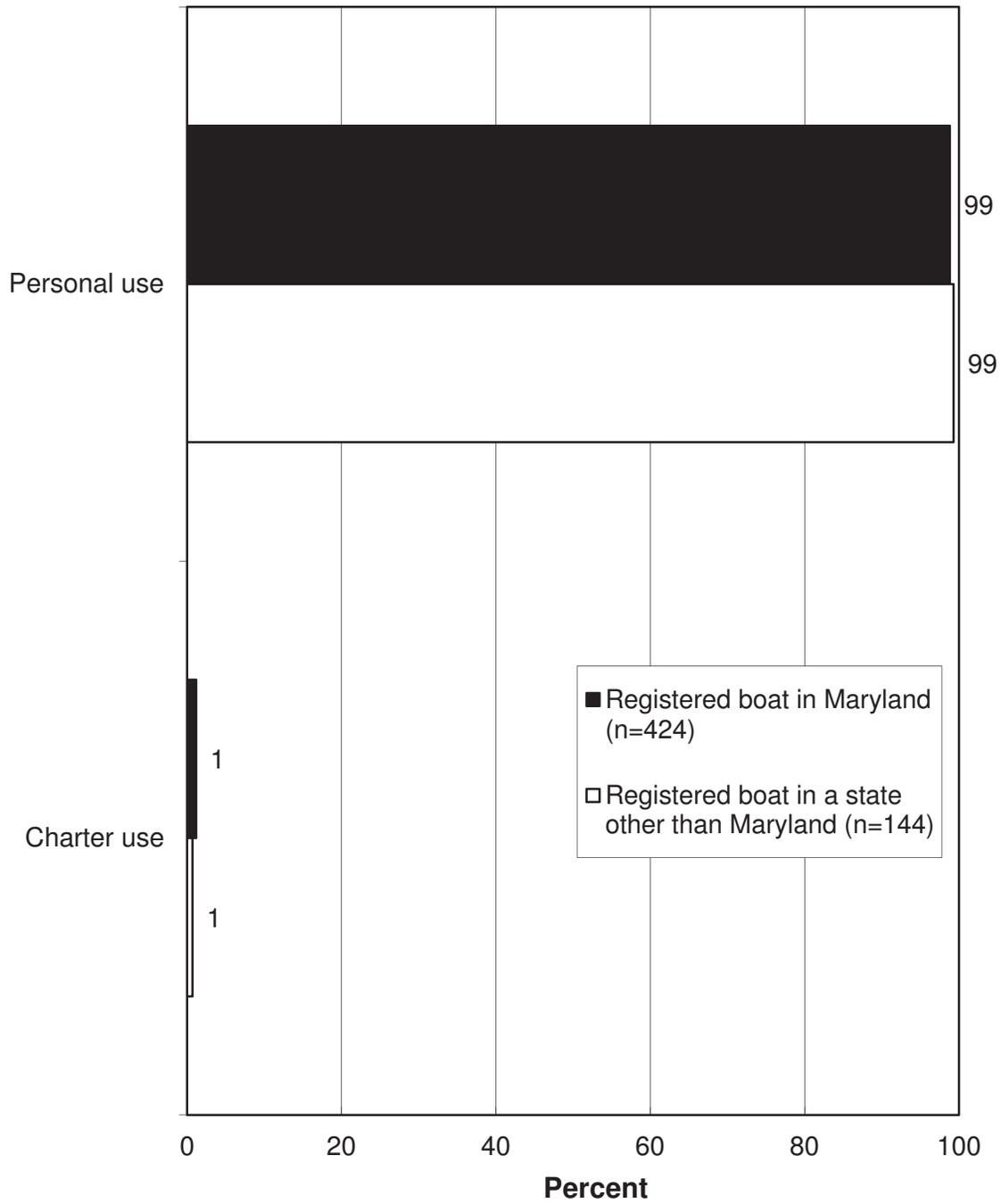
What is the size of this boat?



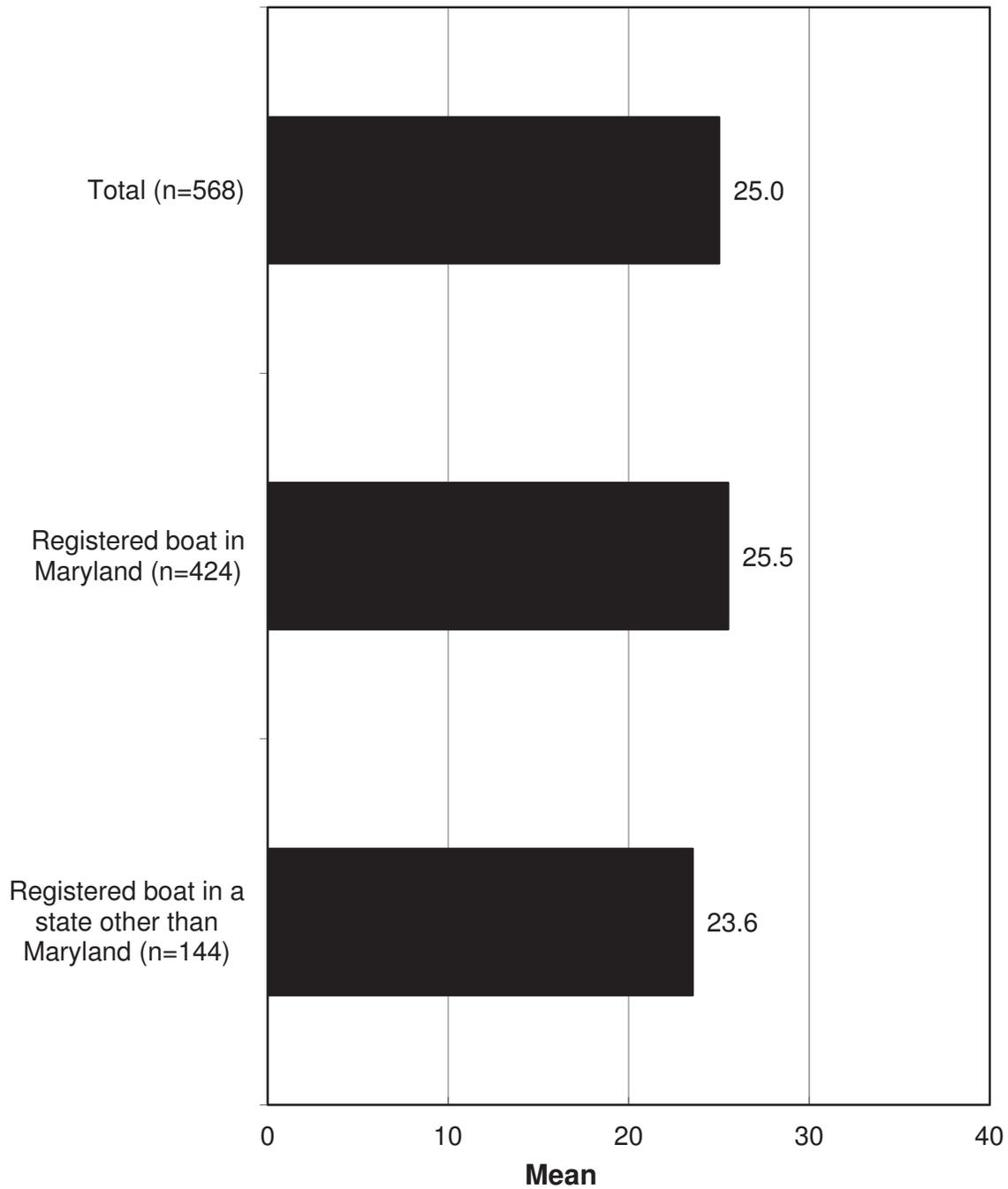
Do you primarily own this boat for personal use, charter use, or commercial use?



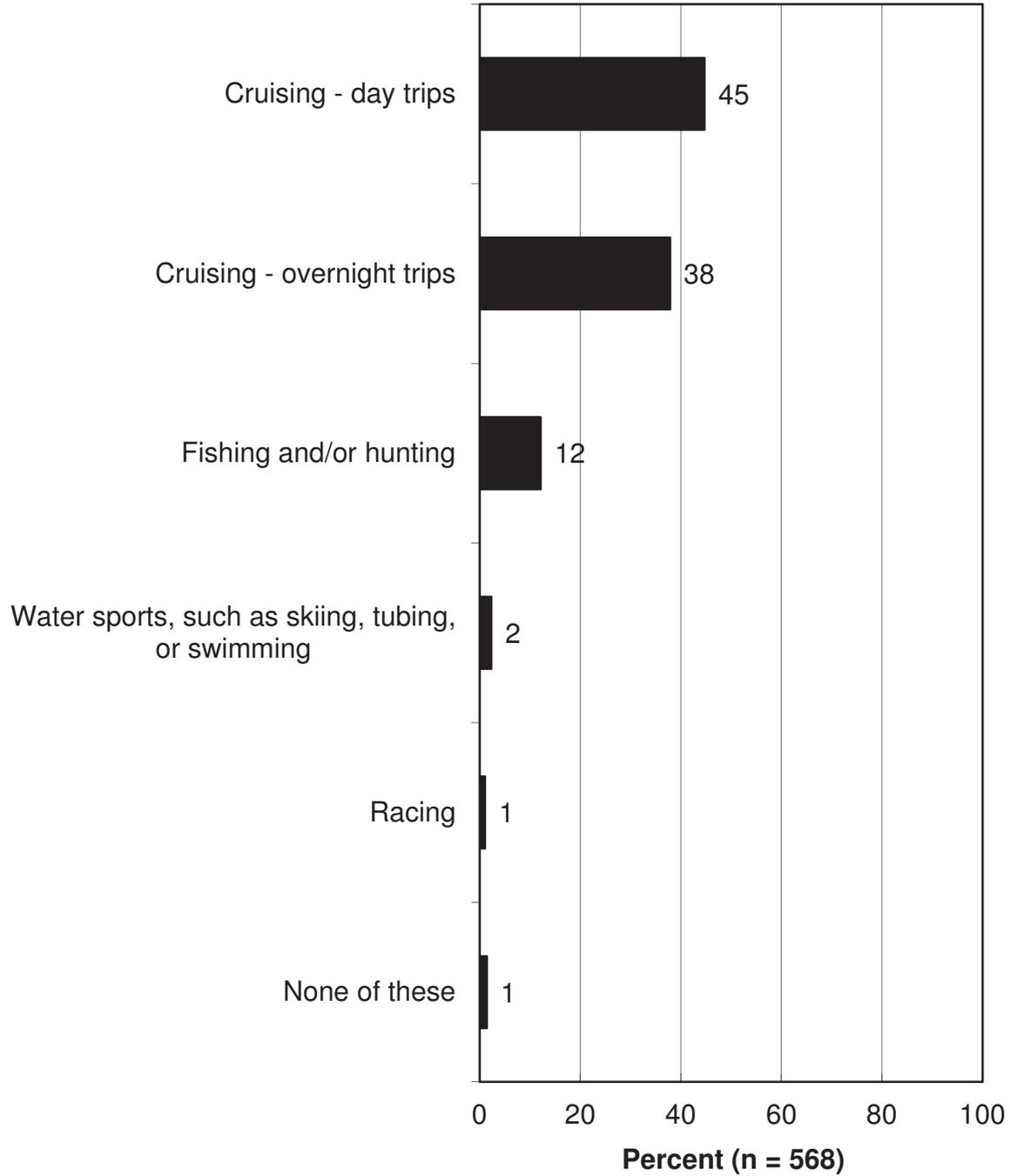
Do you primarily own this boat for personal use, charter use, or commercial use?



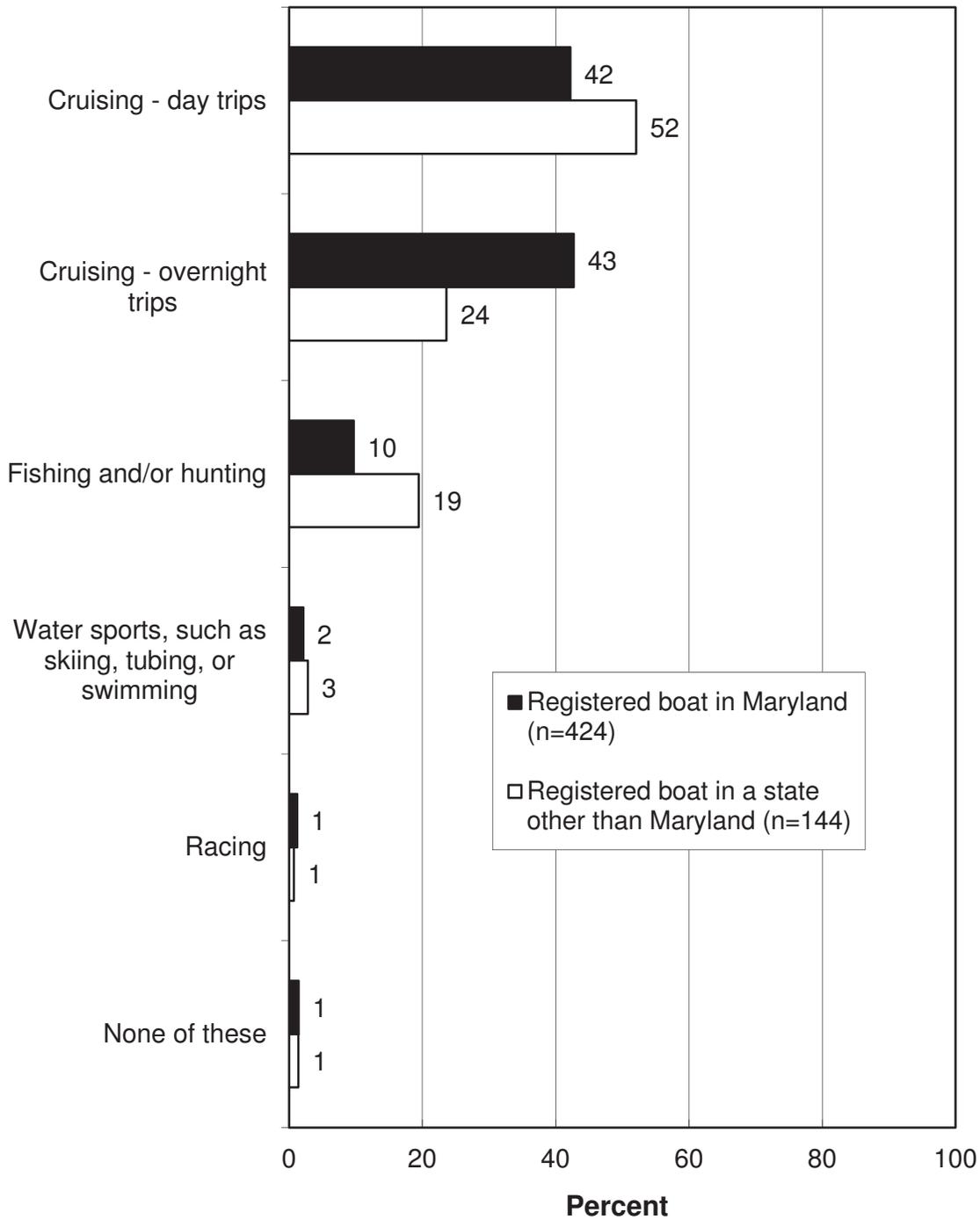
Mean annual number of trips.



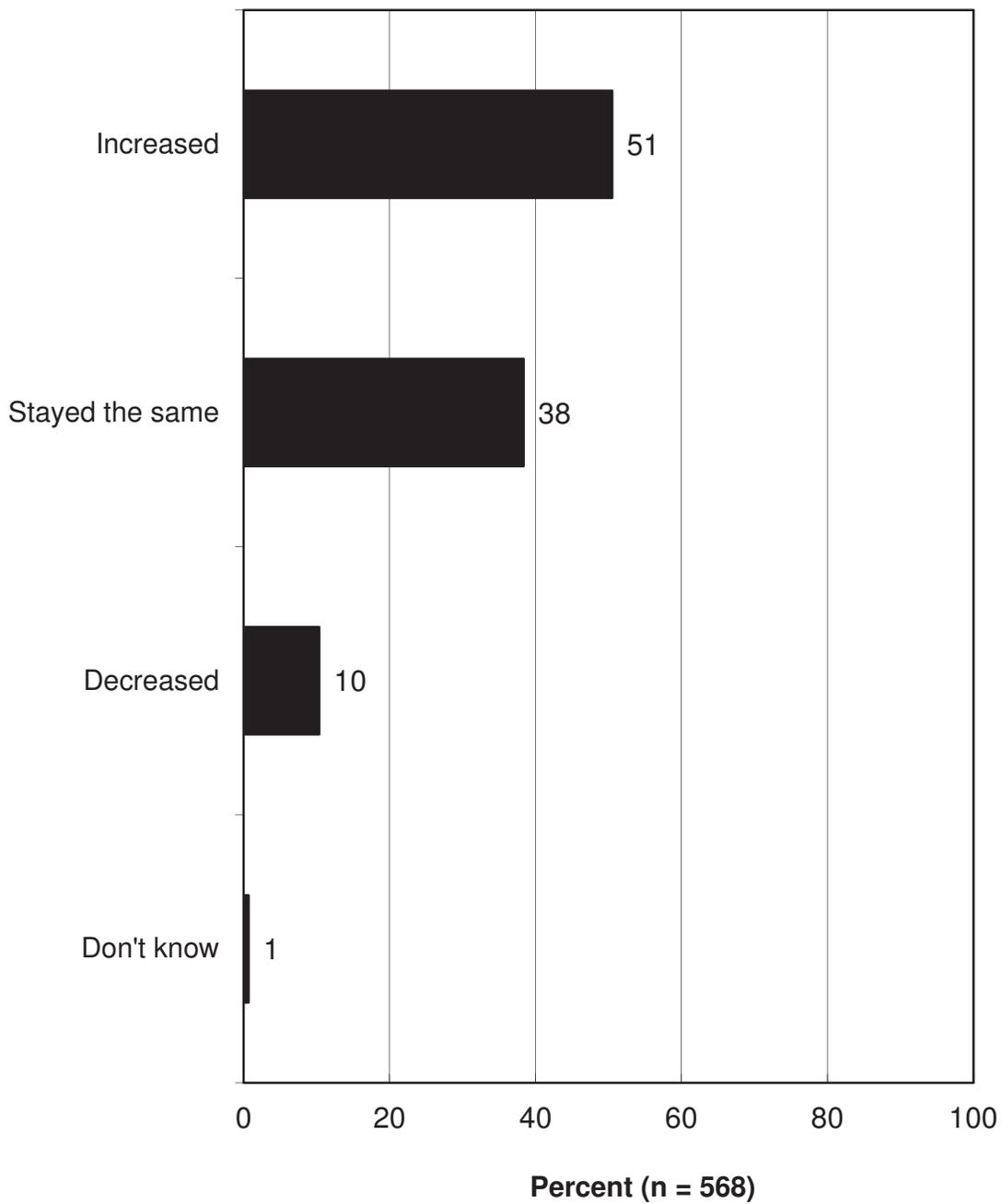
Which of the following is the primary activity you engage in while using this boat?



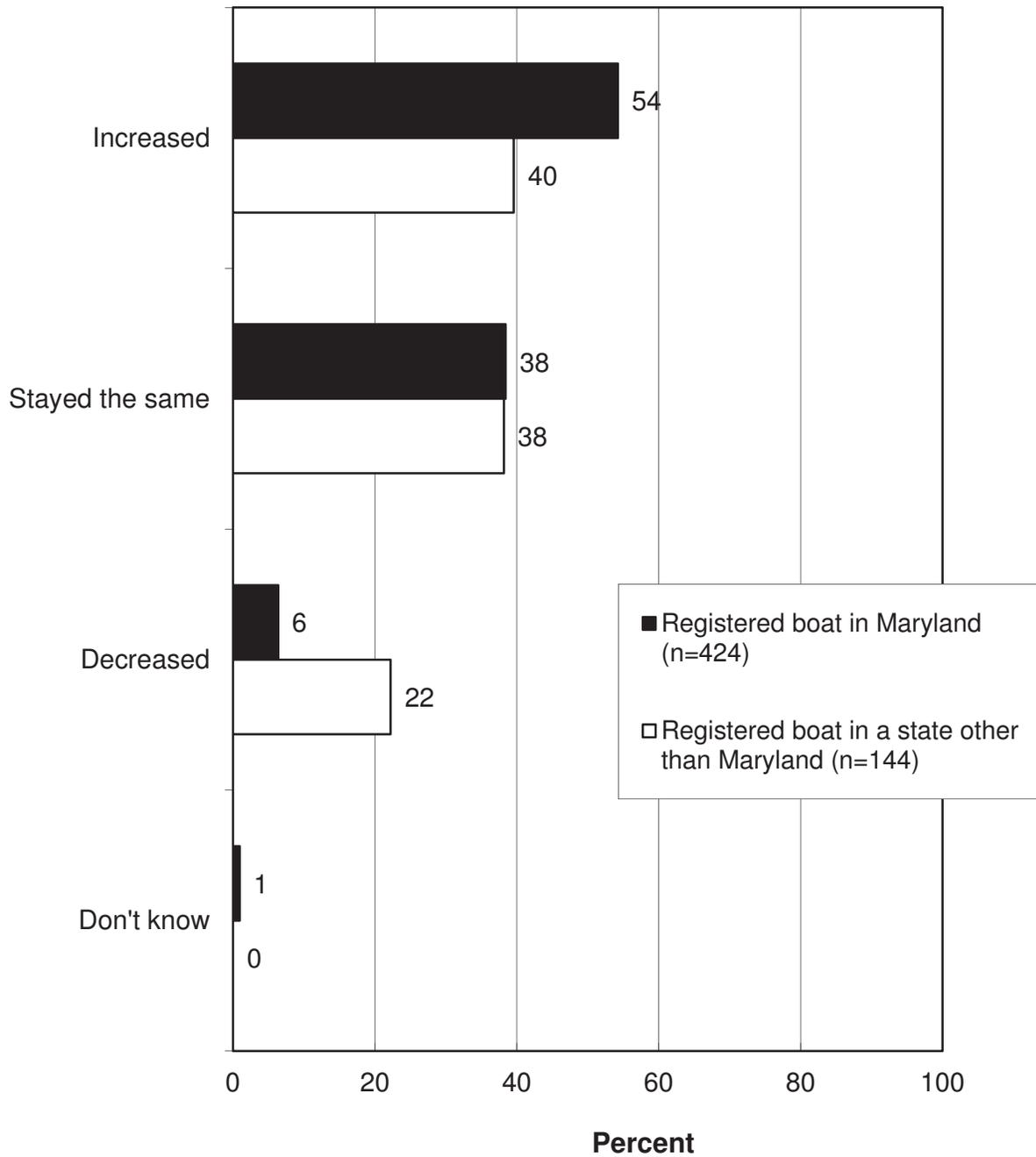
Which of the following is the primary activity you engage in while using this boat?



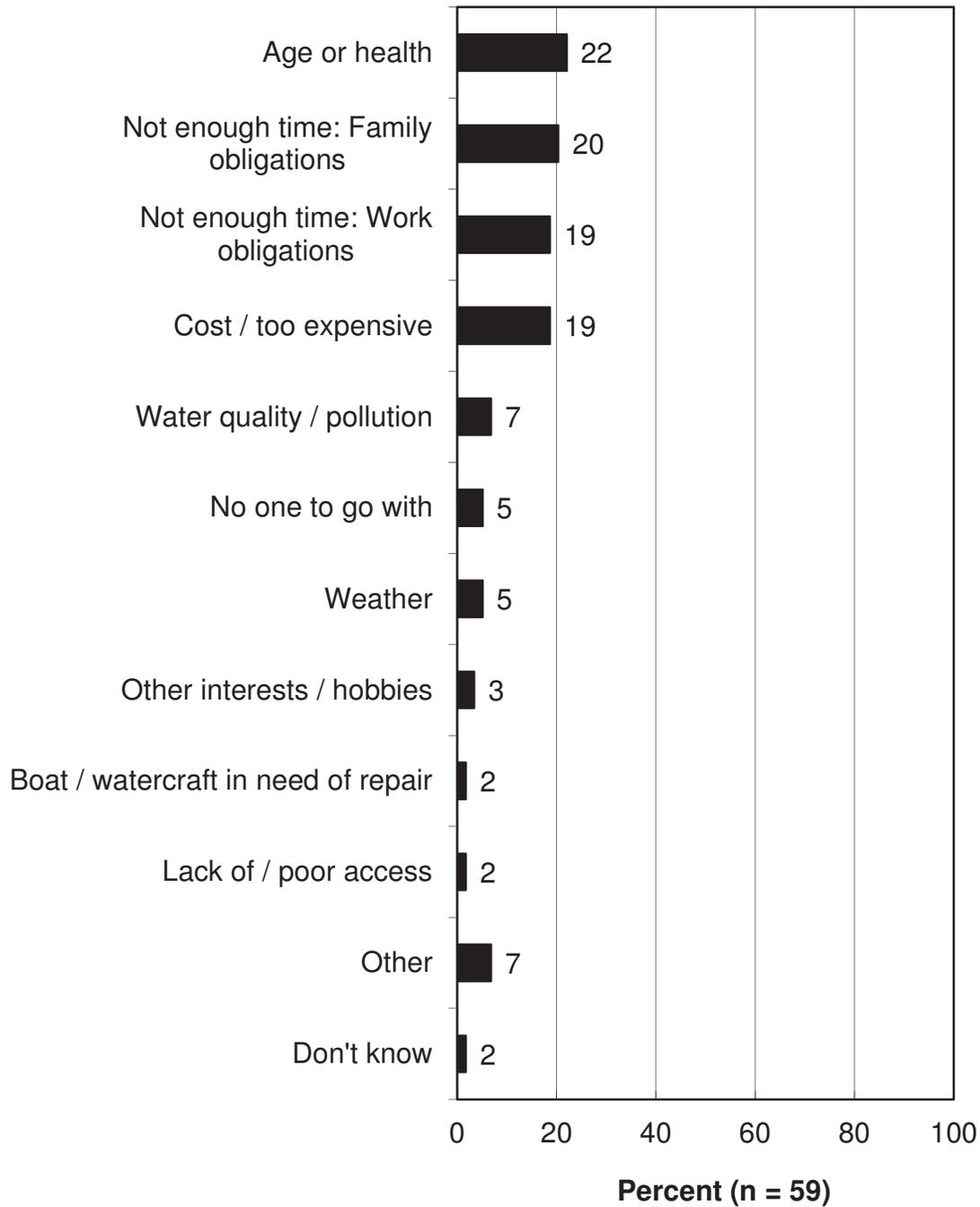
Would you say your boating participation has increased, stayed the same, or decreased over the past 5 years?



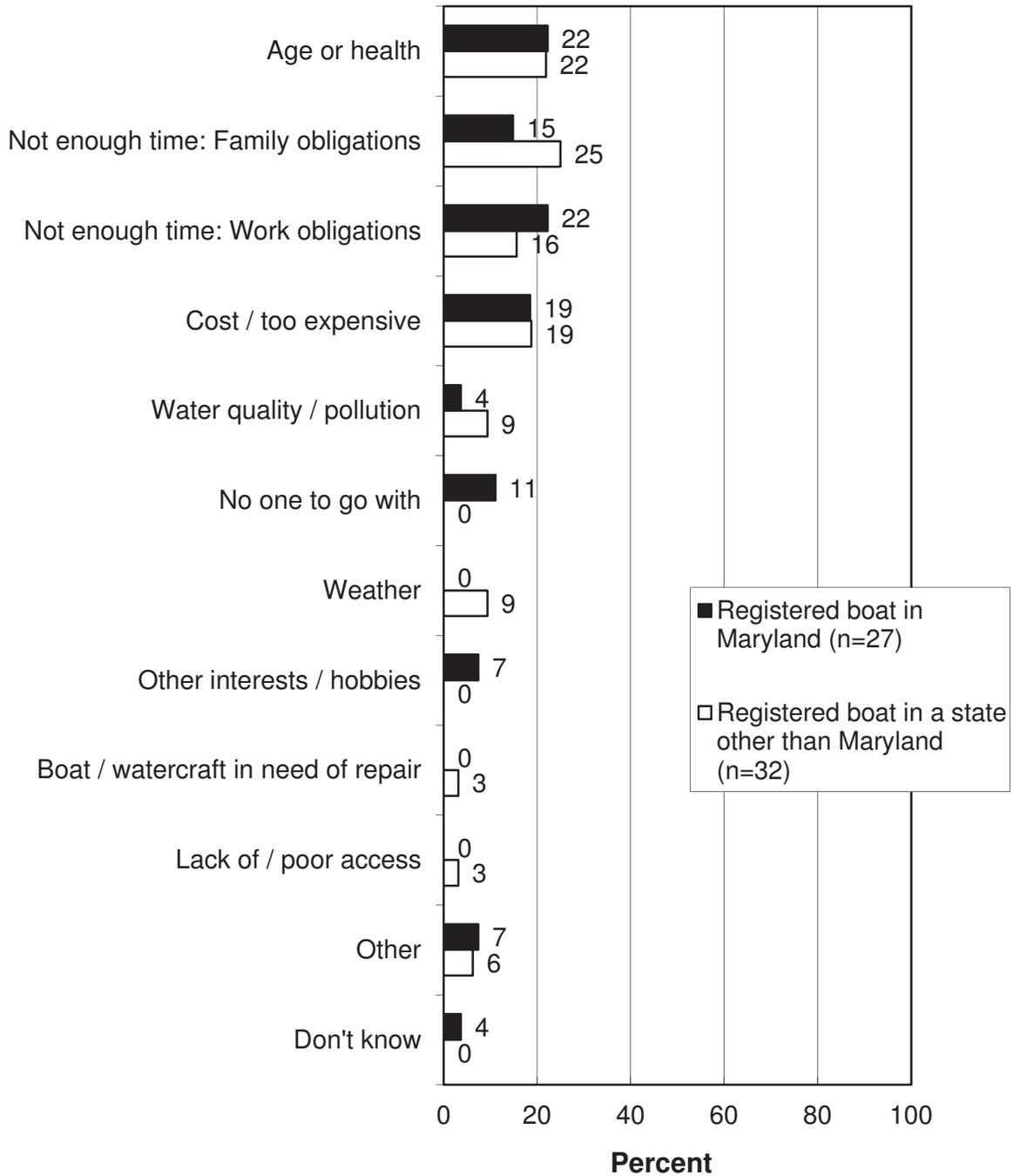
Would you say your boating participation has increased, stayed the same, or decreased over the past 5 years?



Why has your boating participation decreased over the past 5 years?



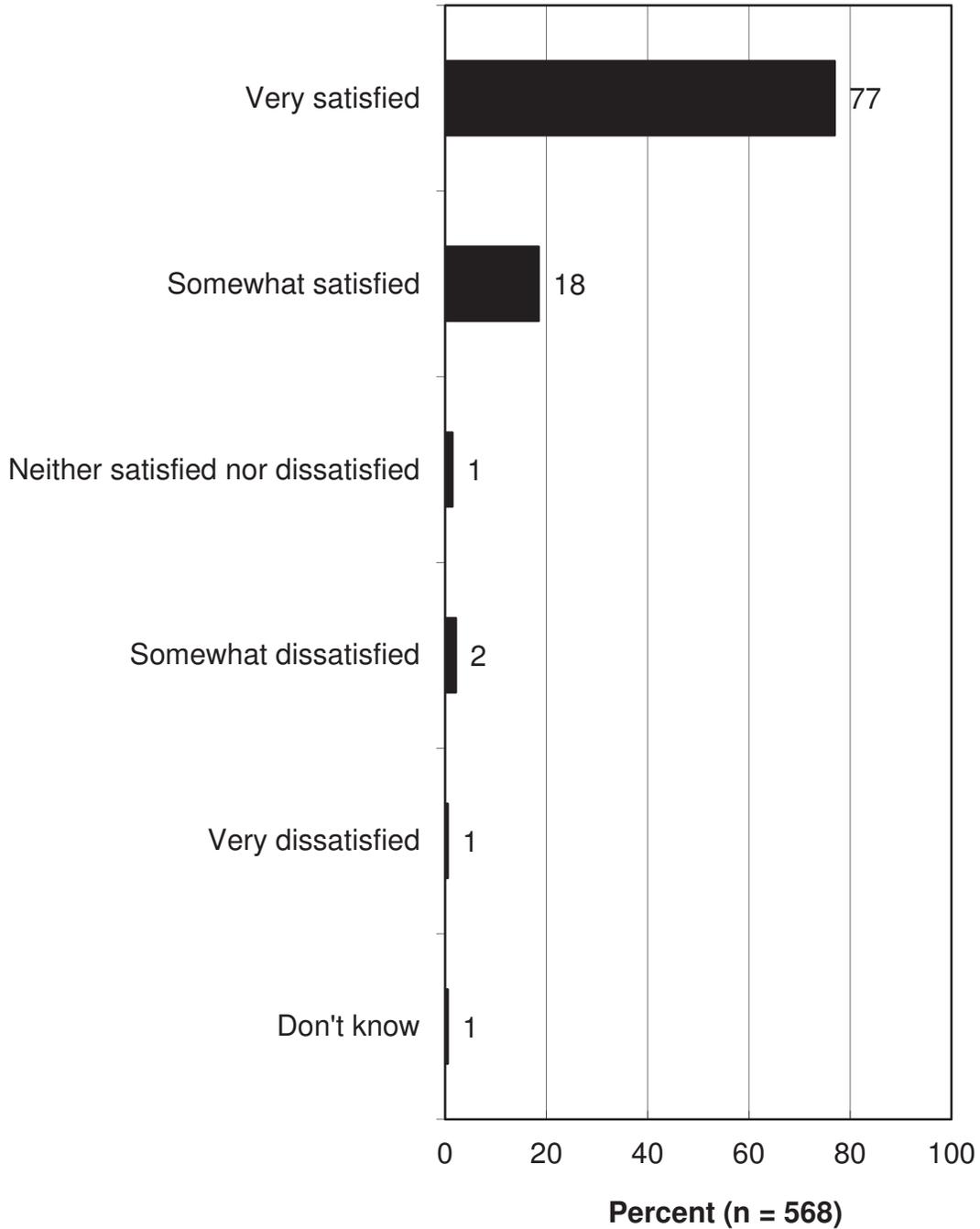
Why has your boating participation decreased over the past 5 years?



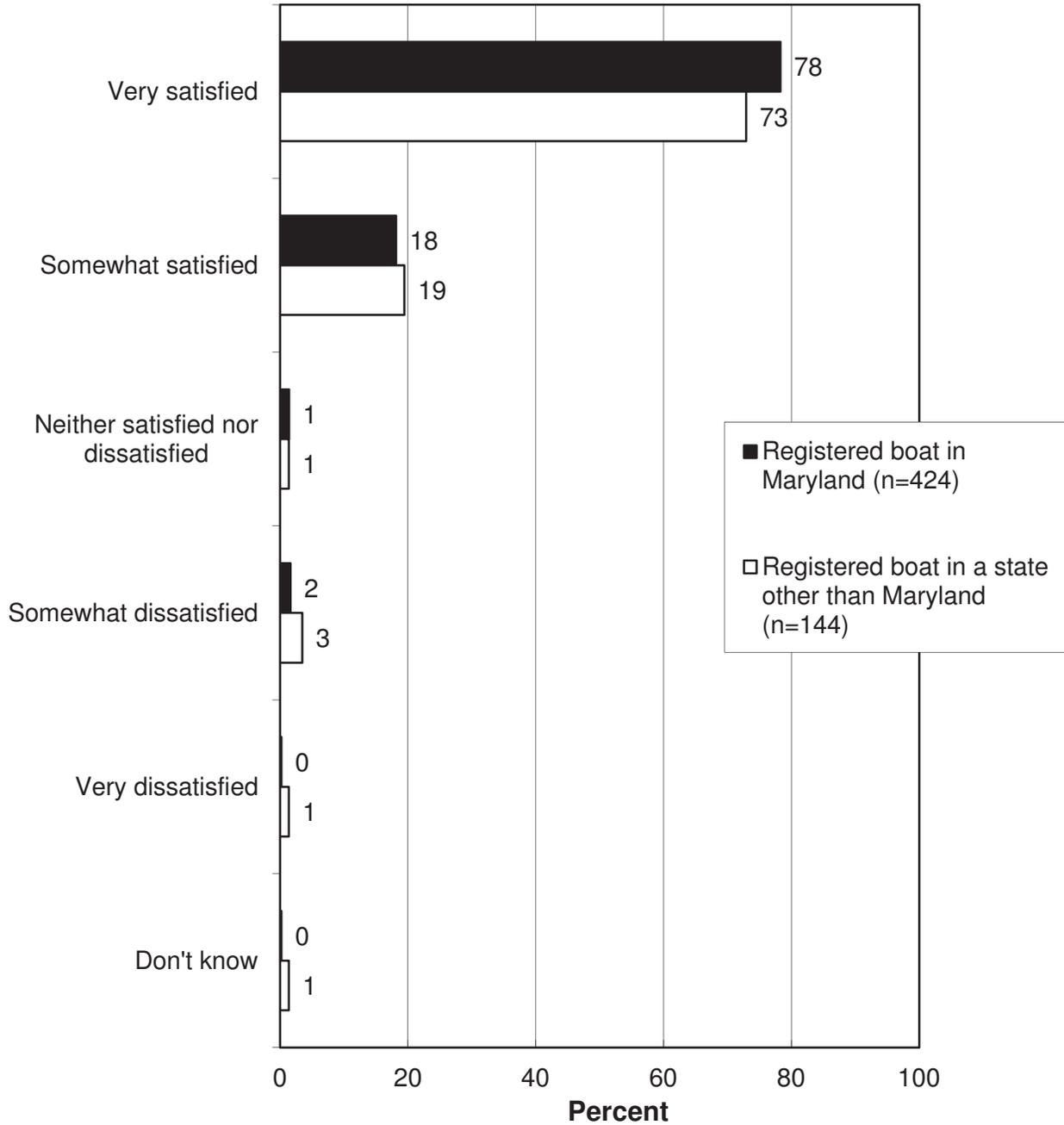
SATISFACTION OR DISSATISFACTION WITH BOATING

- Satisfaction ratings for boating experiences in the past 12 months are highly positive: 95% are satisfied, with 77% being *very* satisfied.
 - The crosstabulation by where their boat is registered shows high satisfaction among both groups.
 - Reasons for being dissatisfied are shown; the sample size is low because so few were dissatisfied. Water quality and pollution issues top the list.

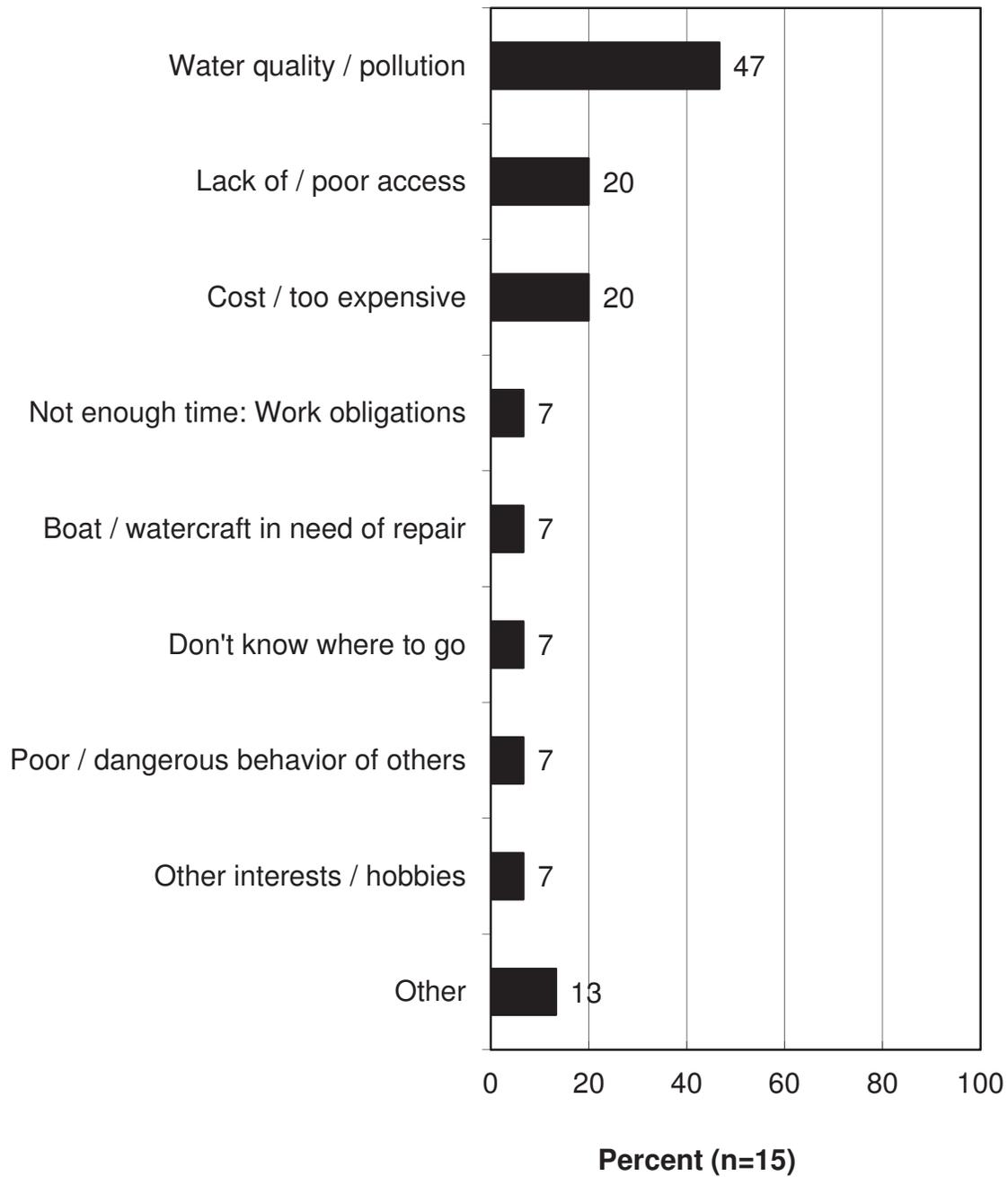
In general, how satisfied or dissatisfied have you been with your boating experiences in the past 12 months?



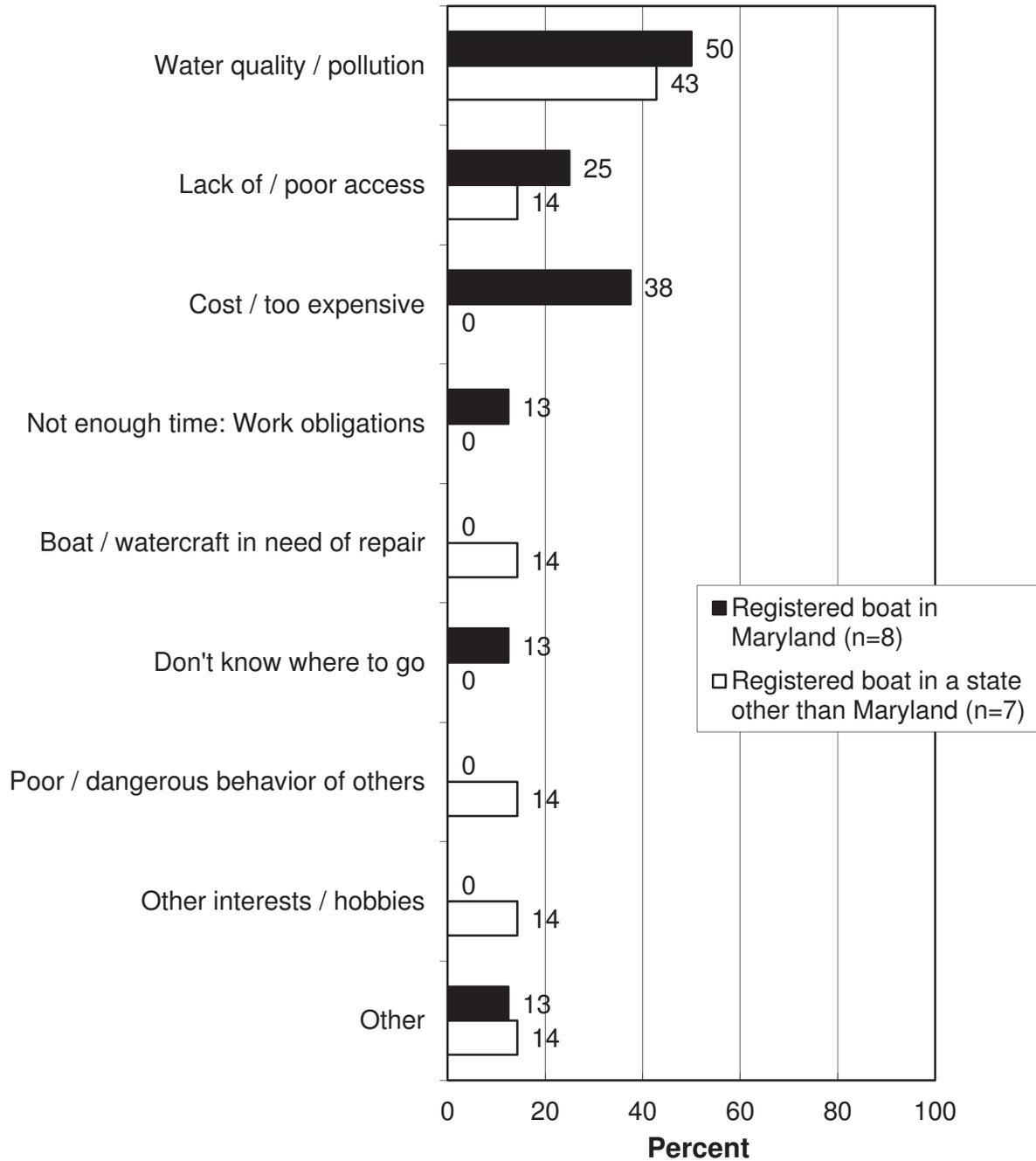
In general, how satisfied or dissatisfied have you been with your boating experiences in the past 12 months?



Why have you been dissatisfied with your boating experiences in the past 12 months?



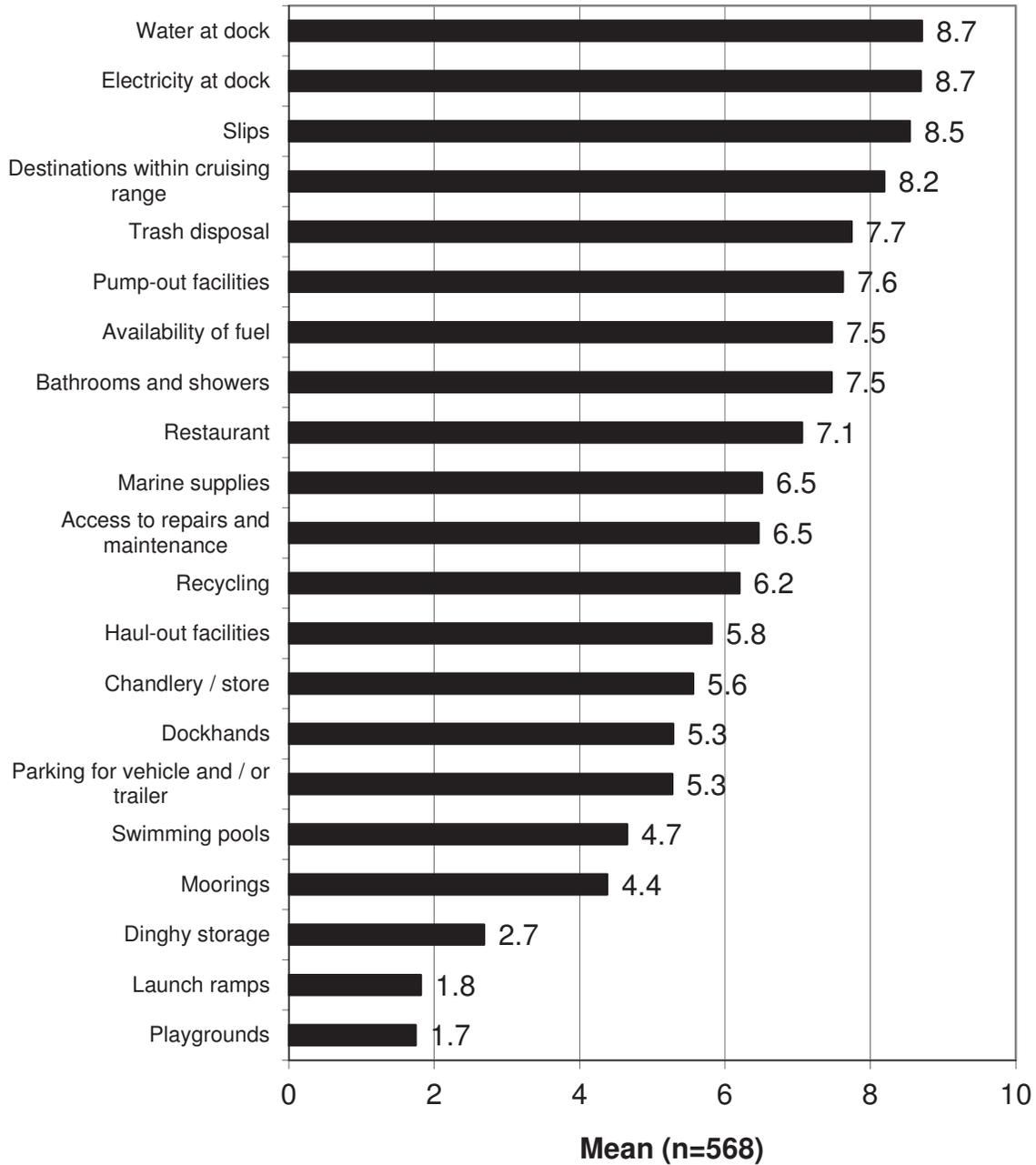
Why have you been dissatisfied with your boating experiences in the past 12 months?



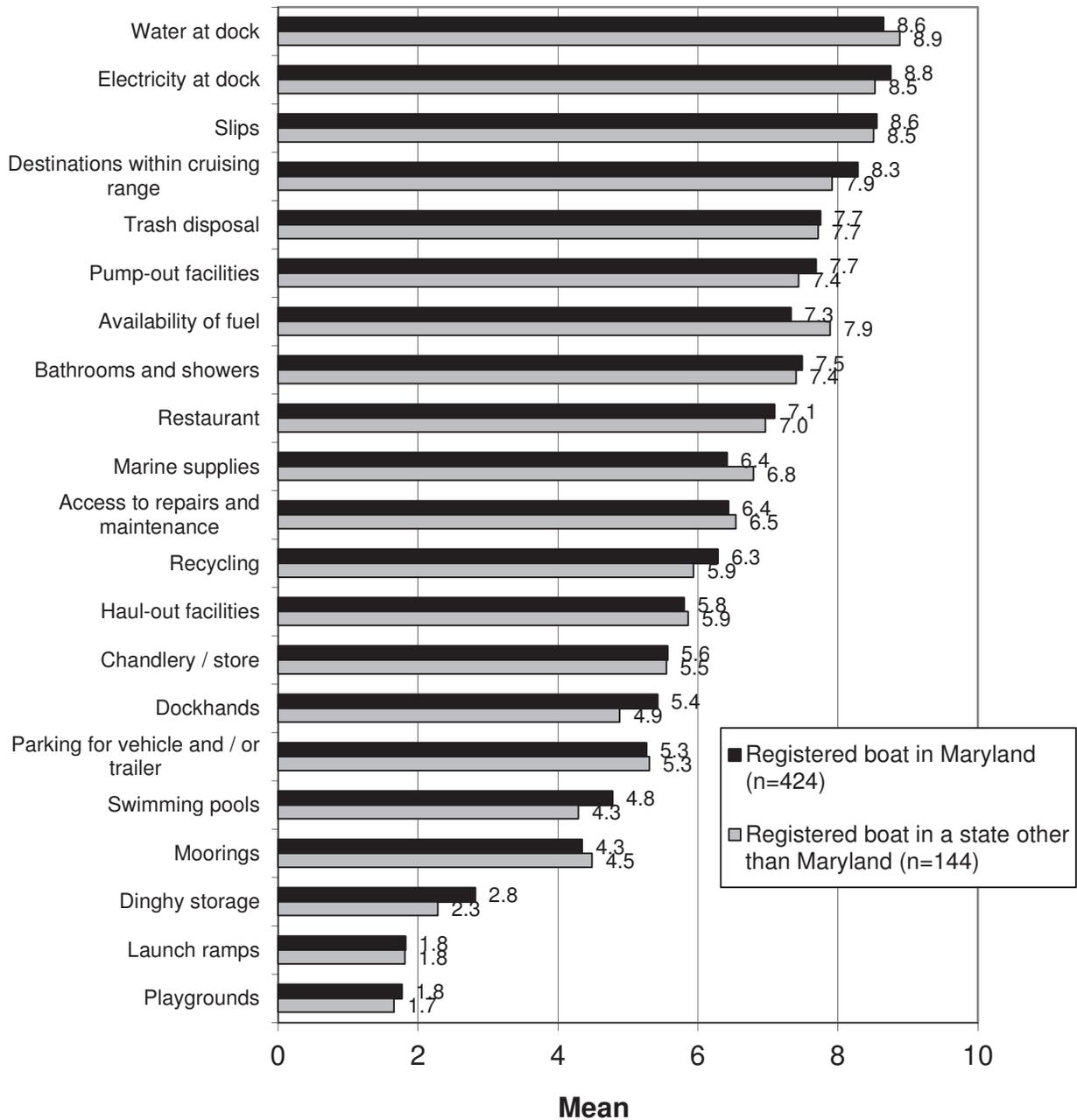
IMPORTANCE OF VARIOUS FEATURES AND AMENITIES AT MOORING LOCATIONS

- The survey presented 21 features or amenities to respondents. For each feature/amenity, the survey asked boaters to rate its importance when they select a location where to moor their boat, using a 0 to 10 scale where 0 is unimportant and 10 is extremely important.
 - Four features/amenities are in the top tier, with the top two being the availability of water and electricity at the dock. This top tier is rounded out by the availability of slips, and having destinations within cruising range. All of these have a mean rating of more than 8.0.
 - A second tier consists of four items at 7.5 or more: trash disposal, pump-out facilities, availability of fuel, and bathrooms and showers.
 - The graph shows the full listing.
 - The crosstabulations by whether the boat was registered in Maryland or not found little difference between the groups.
 - The crosstabulation by whether the boat was registered in the state of residence or outside the state of residence found marked differences in dinghy storage (a difference of 1.15 points in the mean, although overall dinghy storage was low down in importance in general), parking for vehicle and/or trailer (difference of 1.02), having bathrooms and showers (difference of 0.75), and having dockhands (difference of 0.74, although dockhands are of low importance in general).

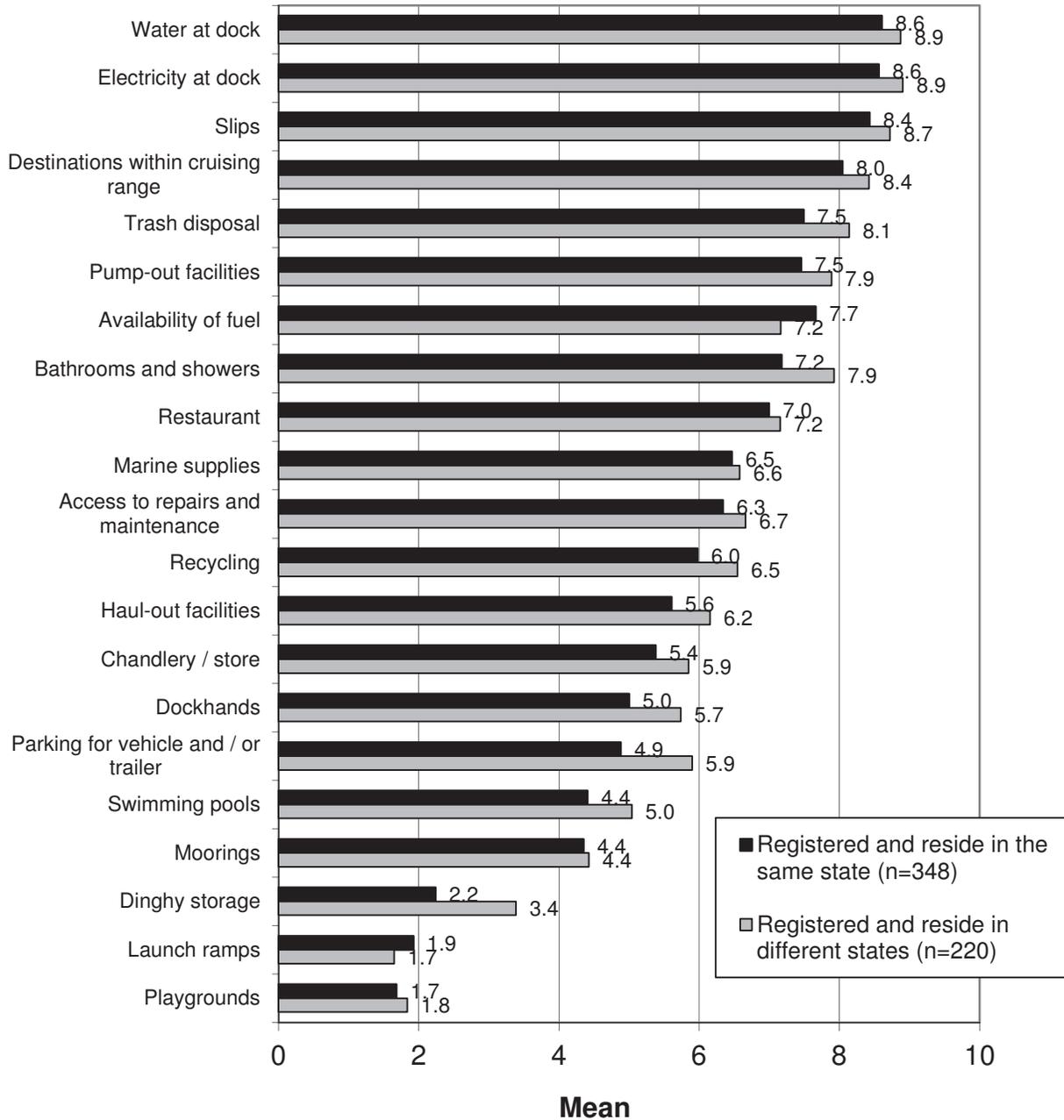
Please rate how important each of the following features and amenities are to you when selecting a location for where to moor your boat. (0=unimportant, 10=extremely important)



Please rate how important each of the following features and amenities are to you when selecting a location for where to moor your boat. (0=unimportant, 10=extremely important)



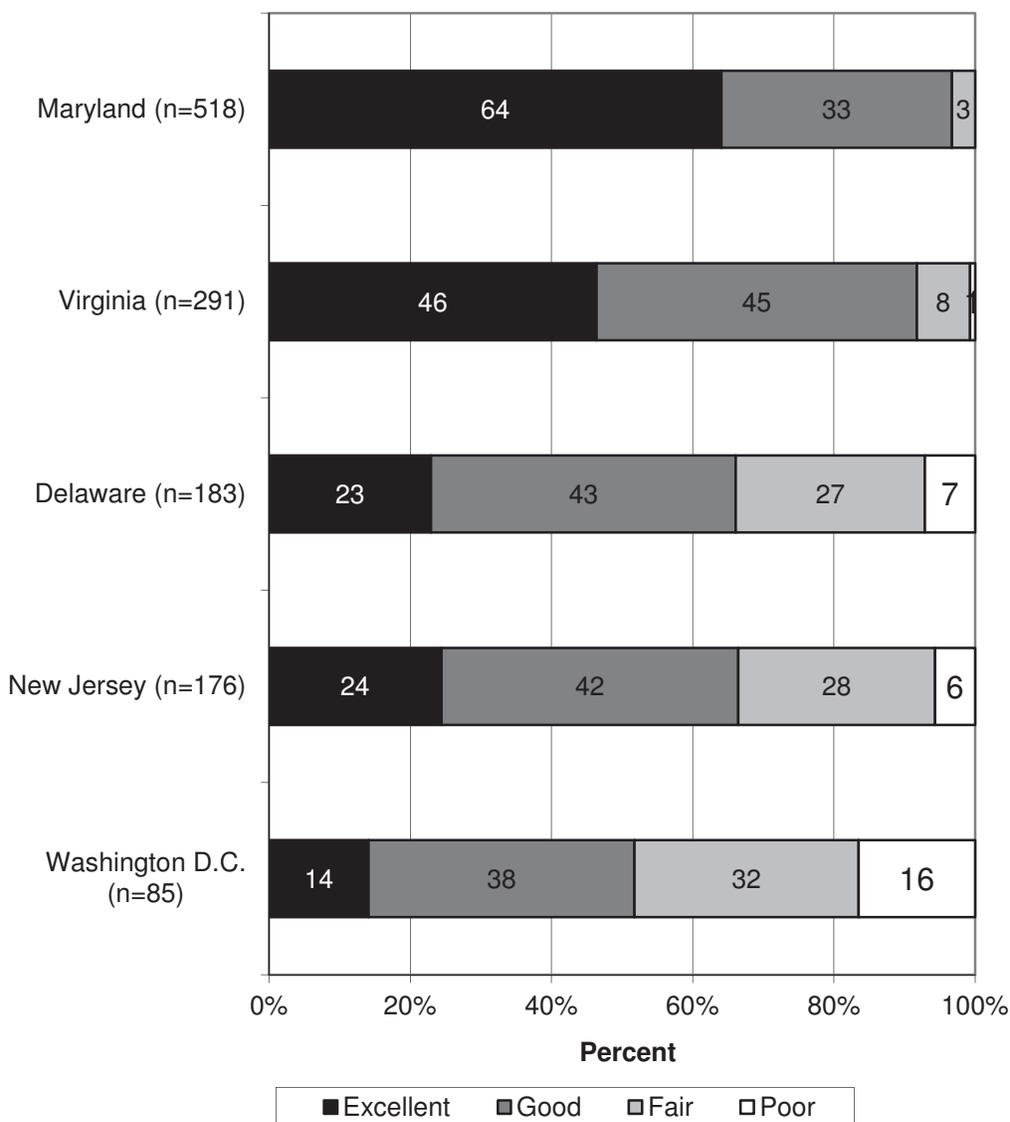
Please rate how important each of the following features and amenities are to you when selecting a location for where to moor your boat. (0=unimportant, 10=extremely important)



OPINIONS ON THE QUALITY OF BOATING IN VARIOUS STATES

- Ratings of quality of boating in Maryland are positive: 97% give a rating of excellent or good, with 64% saying excellent. Virginia also had positive ratings: 91% give a rating of excellent or good, with 46% saying excellent.

How would you rate the quality of your boating experiences in [STATE]'s waters in the past 5 years? (Asked of those who boated in the state.)



BOAT REGISTRATION IN VARIOUS STATES

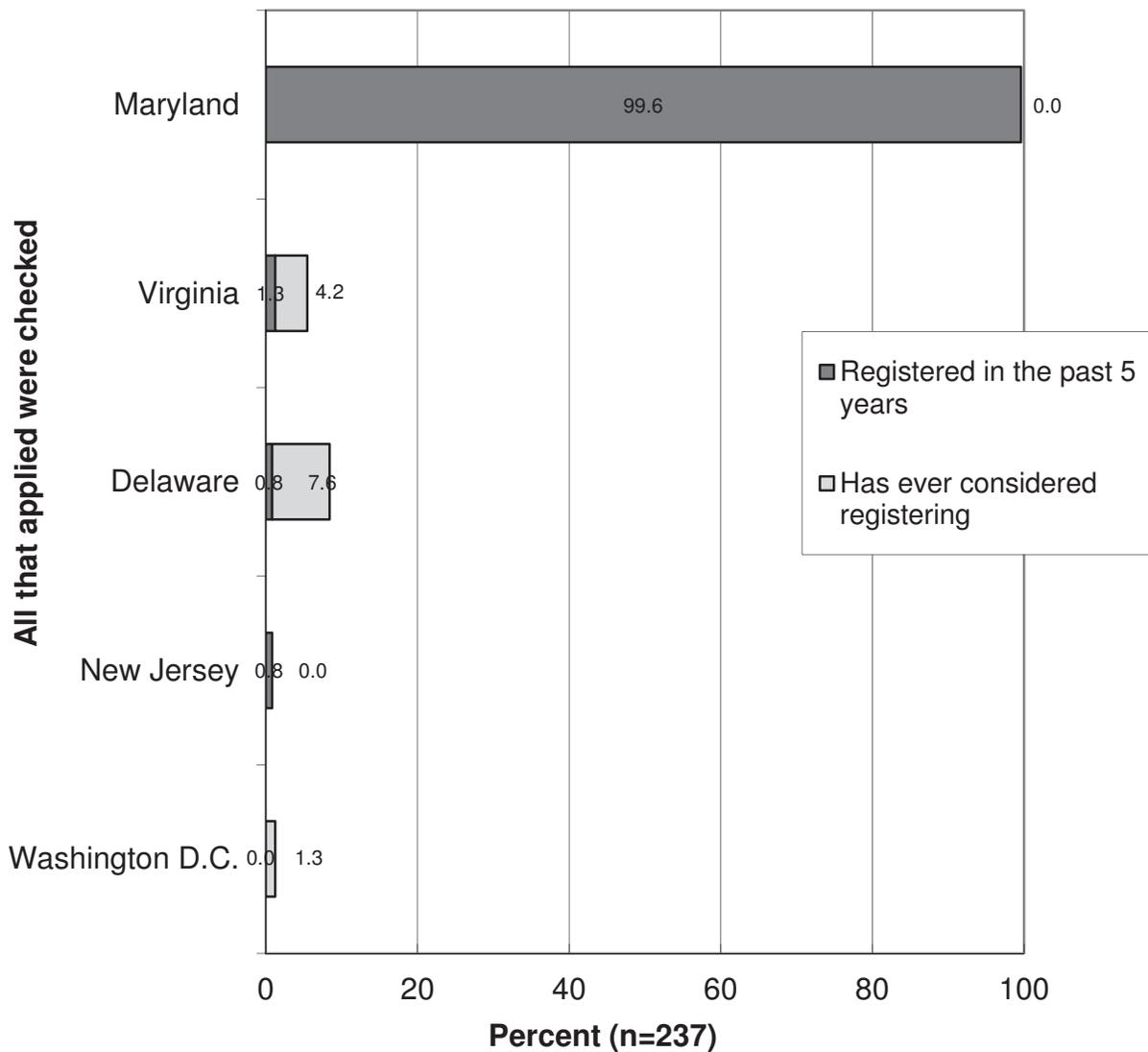
- The survey asked specifically about whether the boater had registered his/her boat in the past 5 years or had ever considered registering his/her boat in five locations (Maryland, Virginia, Delaware, New Jersey, and the District of Columbia).
 - The results are shown for Maryland residents. Of note is the percentage of Maryland residents in the survey who registered or who considered registering their boat in another state: 5% did so/considered doing so in Virginia, and 8% did so/considered doing so in Delaware, not insubstantial percentages of boaters.

- Graphs are included showing why boaters registered or considered registering their boat in the given states (the first graph in this series is for Maryland; graphs follow for Virginia, Delaware, New Jersey, the District of Columbia, Florida, and North Carolina).
 - For states that had low numbers of boaters registering or considering registering their boat there, tabulations of the responses are shown (because graphs would not be a valid way to show the data for those low samples).

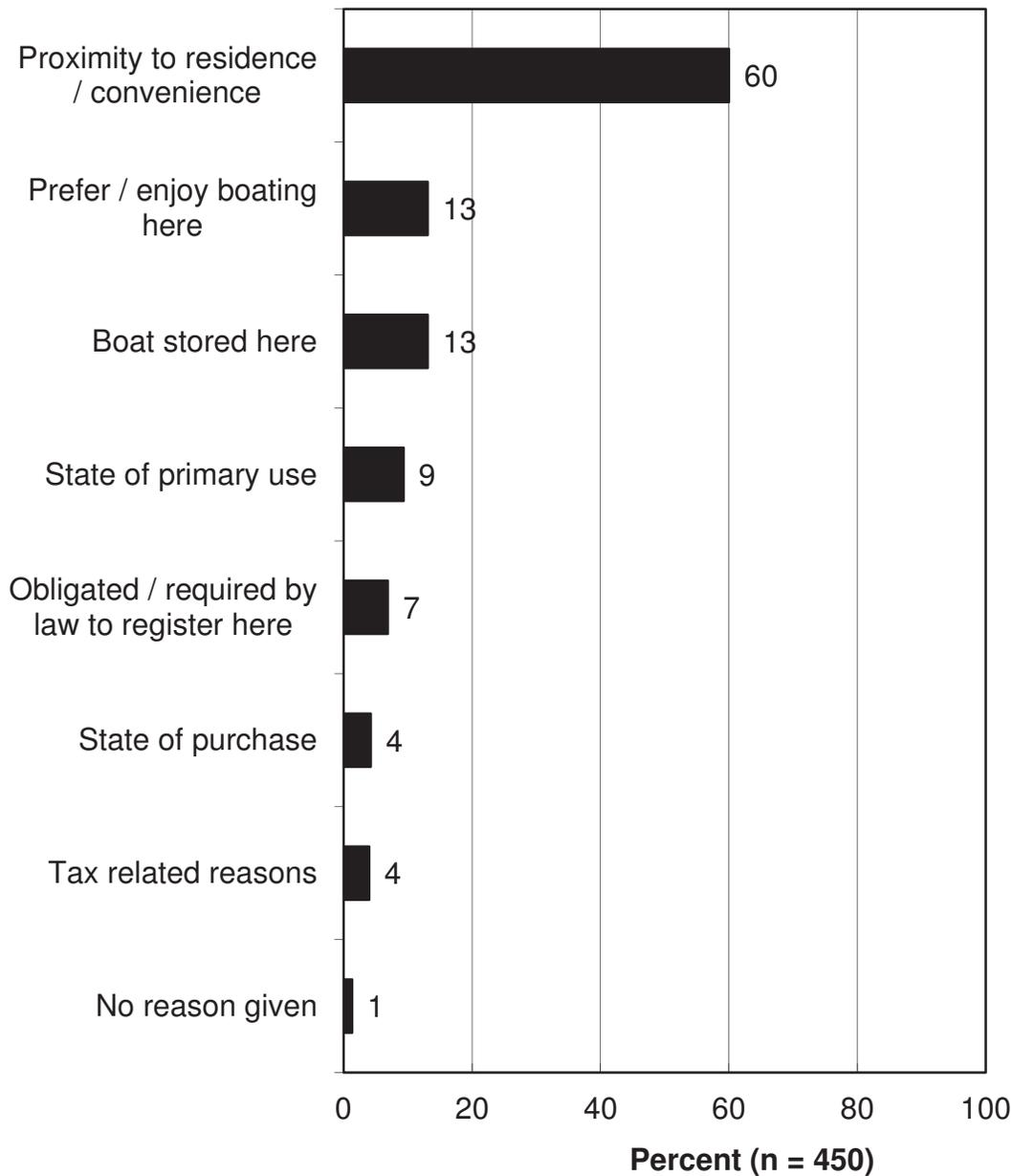
Have you registered your boat in Maryland, Virginia, Delaware, New Jersey, or Washington, D.C., within the past 5 years?

Have you ever considered registering your boat in Maryland, Virginia, Delaware, New Jersey, or Washington, D.C.?

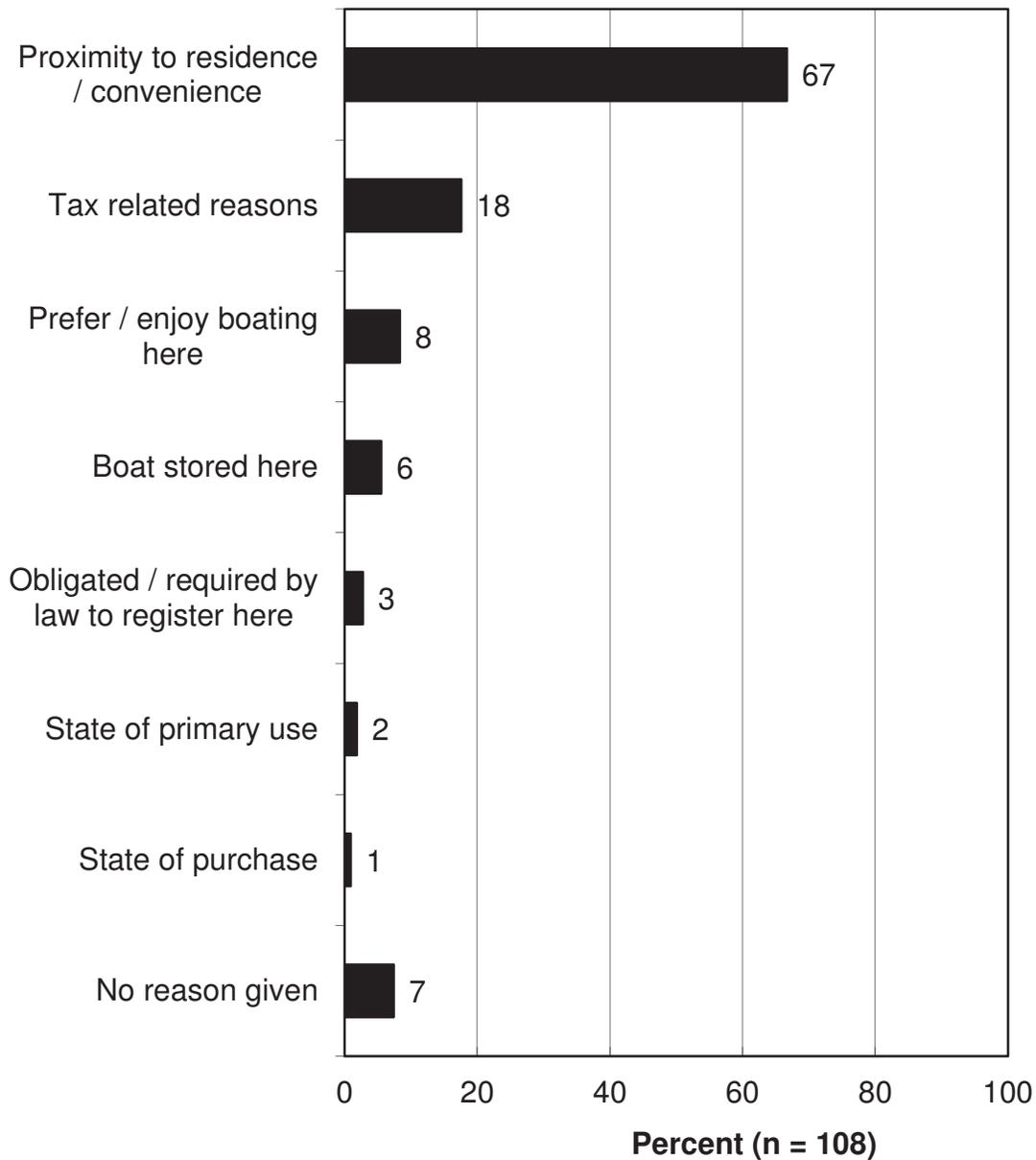
(Maryland residents.)



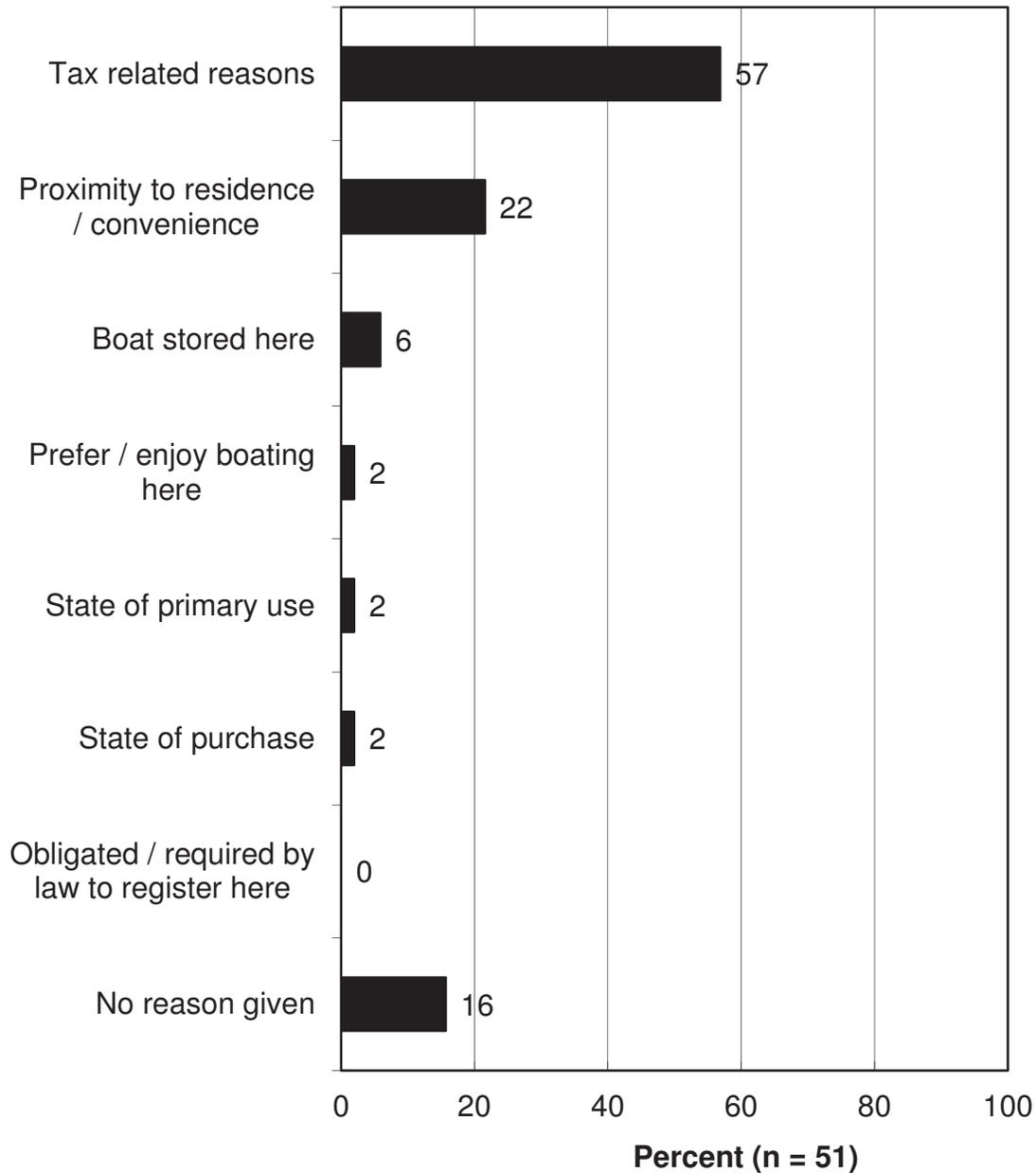
Why did you [register / consider registering] your boat in Maryland? In other words, what factors did you consider in your decision? (Asked of those who registered or considered registering in Maryland.)



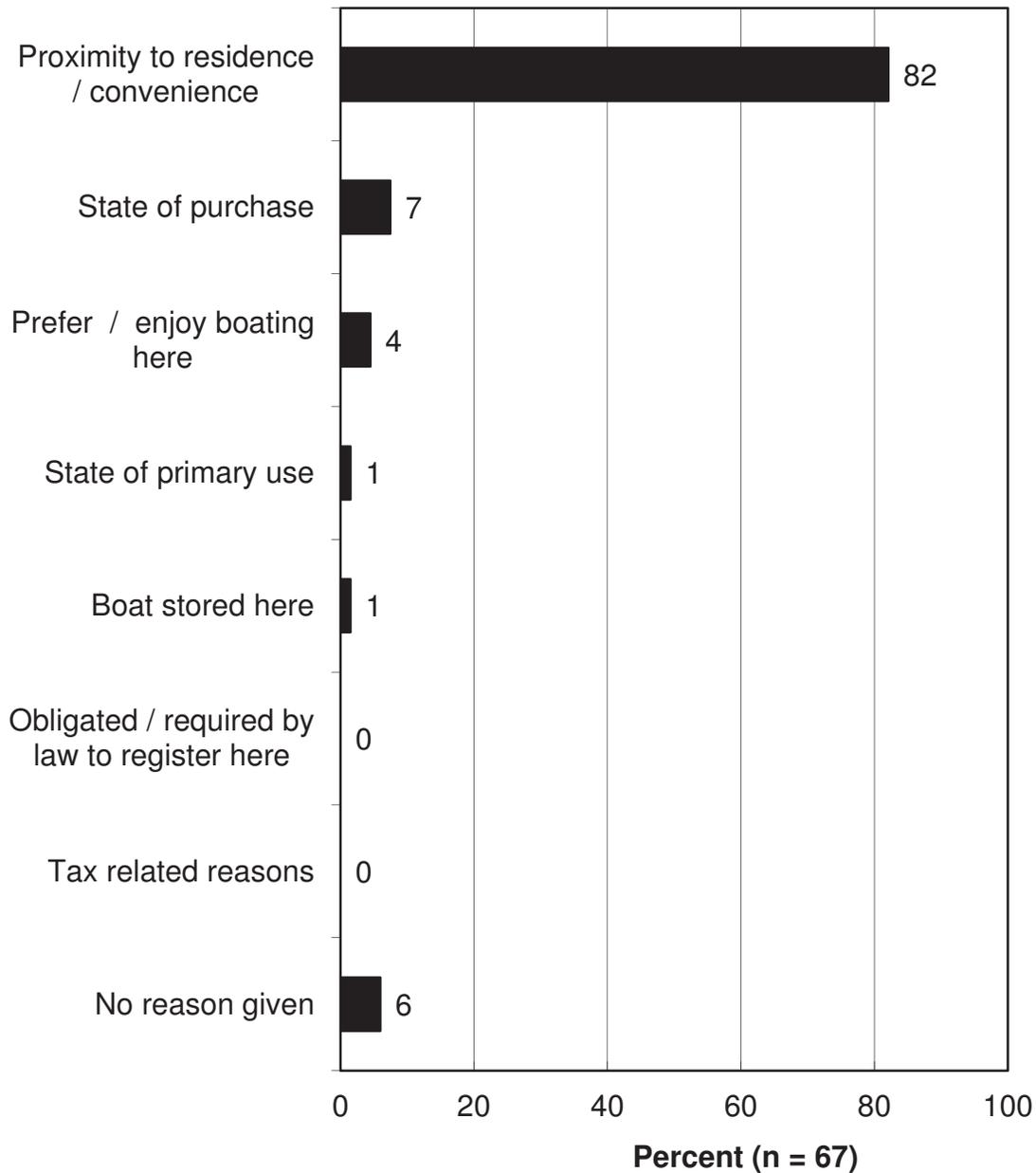
Why did you [register / consider registering] your boat in Virginia? In other words, what factors did you consider in your decision? (Asked of those who registered or considered registering in Virginia.)



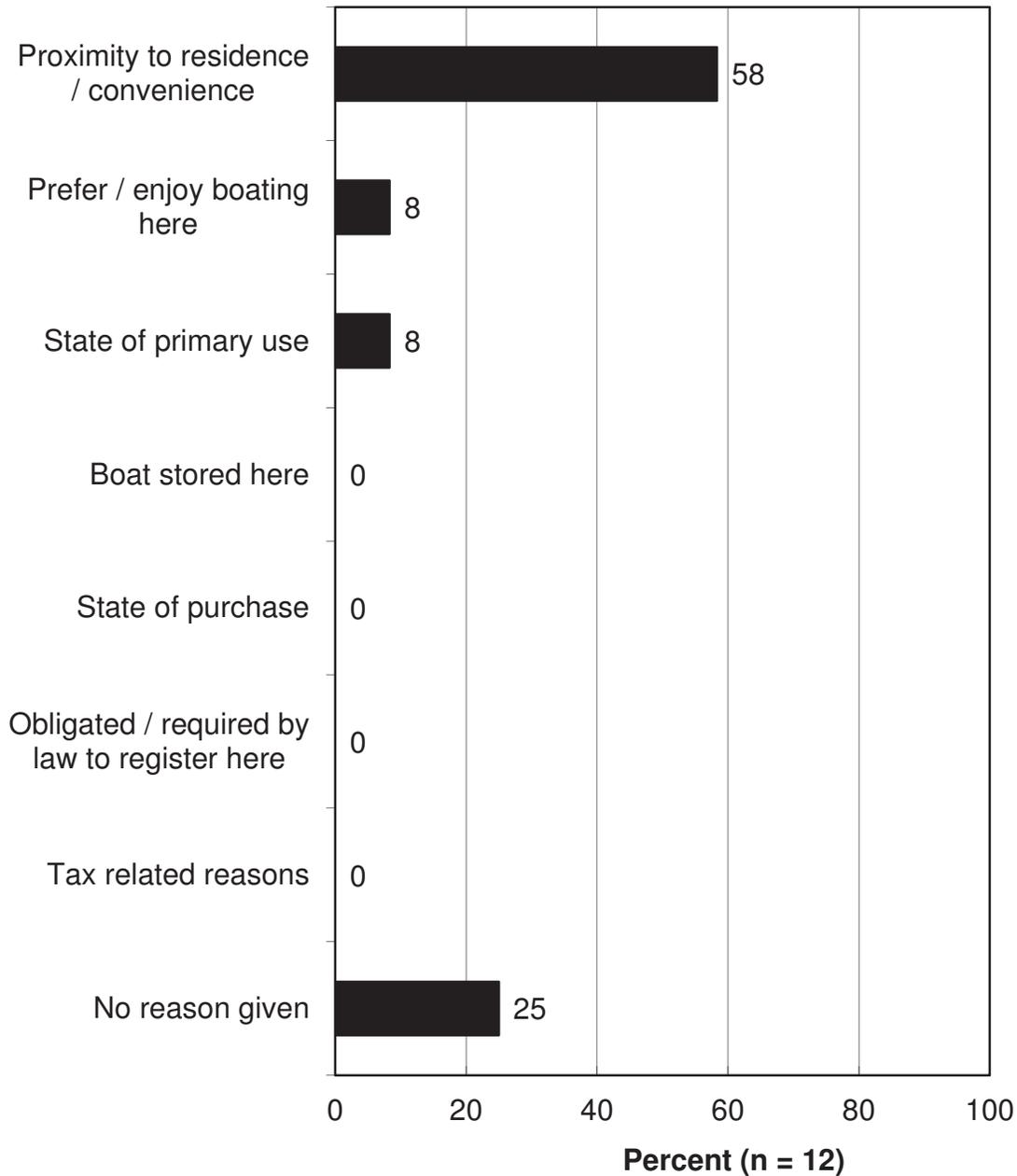
Why did you [register / consider registering] your boat in Delaware? In other words, what factors did you consider in your decision? (Asked of those who registered or considered registering in Delaware.)



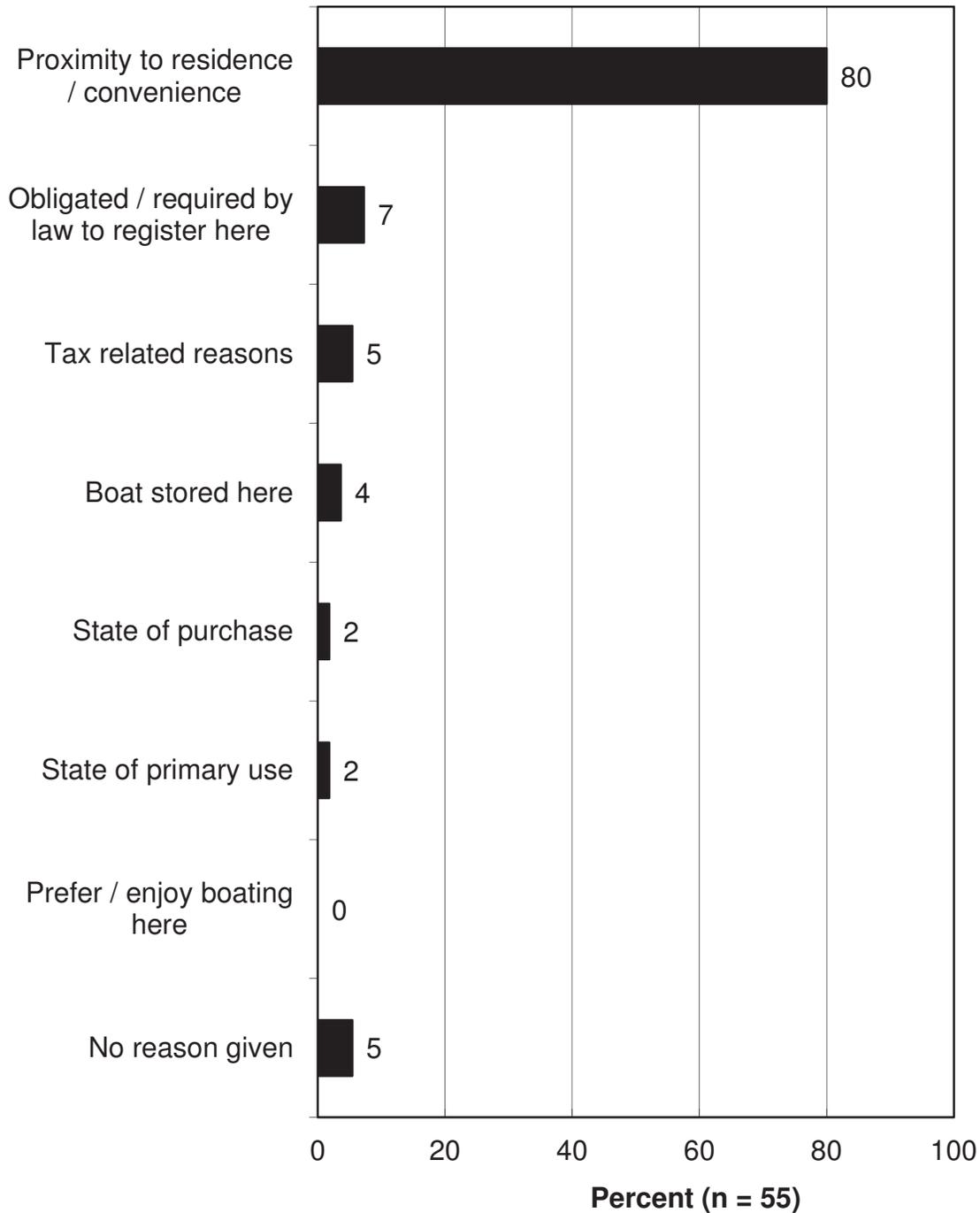
Why did you [register / consider registering] your boat in New Jersey? In other words, what factors did you consider in your decision? (Asked of those who registered or considered registering in New Jersey.)



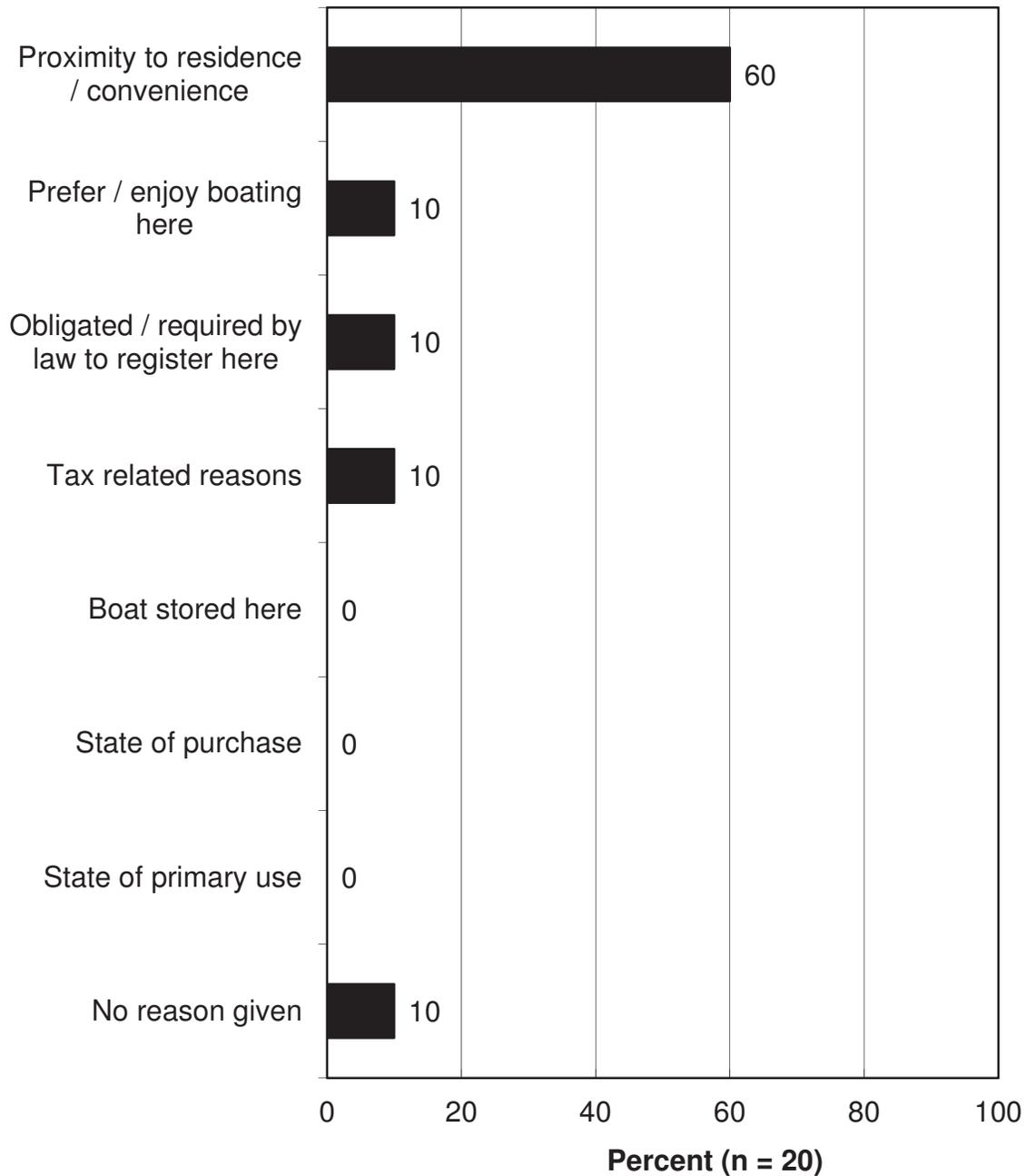
Why did you [register / consider registering] your boat in Washington D.C.? In other words, what factors did you consider in your decision? (Asked of those who registered or considered registering in Washington, D.C.)



Why did you register or consider registering your boat in Florida? (Asked of those who registered or considered registering in Florida.)



Why did you register or consider registering your boat North Carolina? (Asked of those who registered or considered registering in North Carolina.)

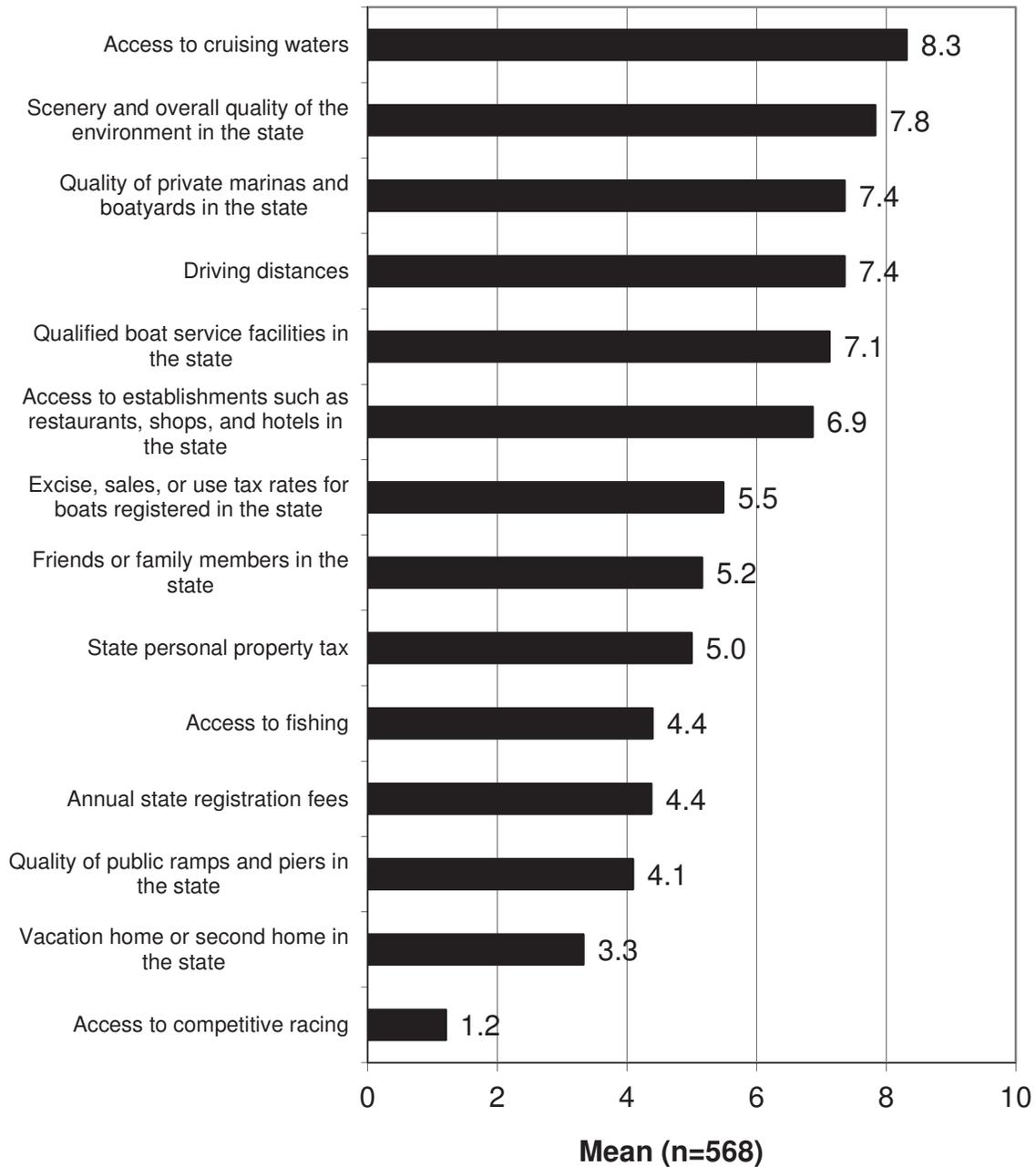


State in Which Respondent Registered or Considered Registering Boat	Reason(s) for Registering or Considering Registering Boat
Alaska	I was a resident until I retired military, no tax.
California	Wrong location.
	Lived aboard.
Connecticut	Lived there.
Georgia	Consider if purchased property.
Illinois	Lived there.
Massachusetts	Previous residence.
	Because I have a vacation home there.
	Grew up sailing in New England.
Maine	Nice environment, cool water.
	Because I have a house in Maine.
Michigan	Summer cabin.
	Own boats there at cottage.
Missouri	Lived in West Virginia, had to document in Missouri.
Mississippi	Live there.
New Hampshire	Zero sales tax, clear water.
New York	We are familiar with the waters, have friends there, and it is a short commute for us.
	Required as state of principal use.
	Owned real estate and a boat in that state.
	Close.
	Lived there.
	I also lived there.
Oregon	I use it there.
	My daughter lives there, and I might move there.
Pennsylvania	It is my state of legal residence.
	We like the marinas there.
	I live in Pennsylvania.
	That is where I live.
	Residence, and that's where the other boat is used.
	Lives there.
	I used to live there.
	Home state.
Close to home.	
Rhode Island	Because it's my residence.
	Sales tax.
	Love Newport!
	Close.
South Carolina	Beautiful boating area.
	Son lives there.
	No ice (warmer weather).
Tennessee	Consider if purchased property.
	Relocating there.
Texas	It's my actual home.
	Lived there.
Washington	Because I want to move there.

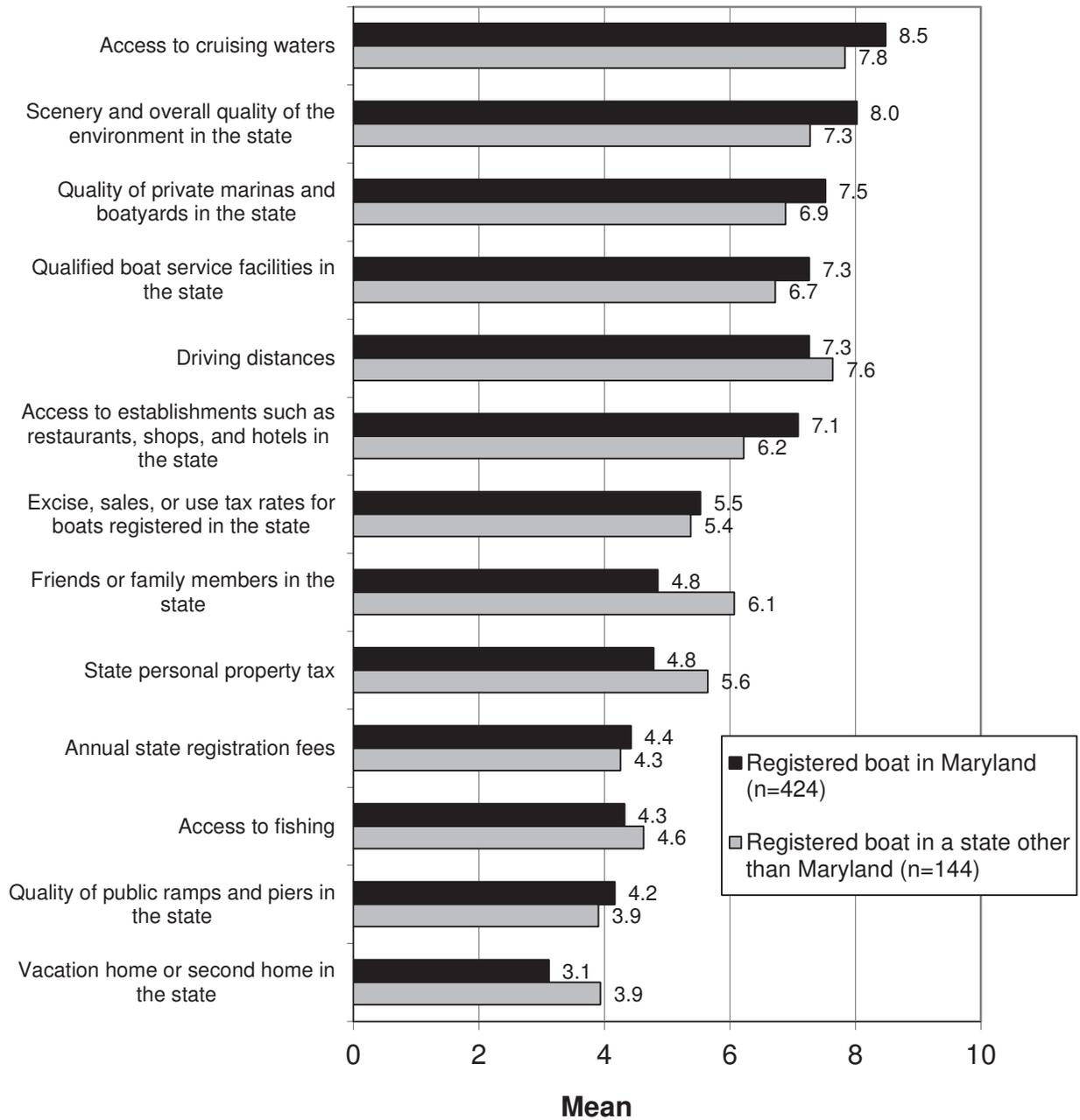
FACTORS AFFECTING STATE OF BOAT REGISTRATION

- A series of questions asked boaters about the importance of specific items when they decided the state in which they registered their boat.
 - Excise/sales/use taxes and the registration fee as factors are low on the list; instead, the top factors are related to aesthetics and enjoyment: access to cruising waters, scenery/quality of the environment in the state, and the quality of private marinas/boatyards. Also on the list are the pragmatic concerns of driving distance and presence of qualified boat service facilities. All of these have a mean rating of more than 7.0.
 - Excise/sales/use taxes as a factor has a mean rating of 5.5 (just above the midpoint), the state personal property tax has a mean rating of 5.0 (the midpoint), and the annual state registration fees as a factor has a mean rating of 4.4 (well below the midpoint).
 - The two aforementioned crosstabulations are included in this section, as well, the first between those who registered their boat in Maryland and those who registered their boat in another state, and the second between those who registered their boat in their home state and those who did not. In the first crosstabulation, there is a marked difference in the mean rating of the state personal property tax, with those registering in a state other than Maryland giving this factor more weight in their decision on where to register.

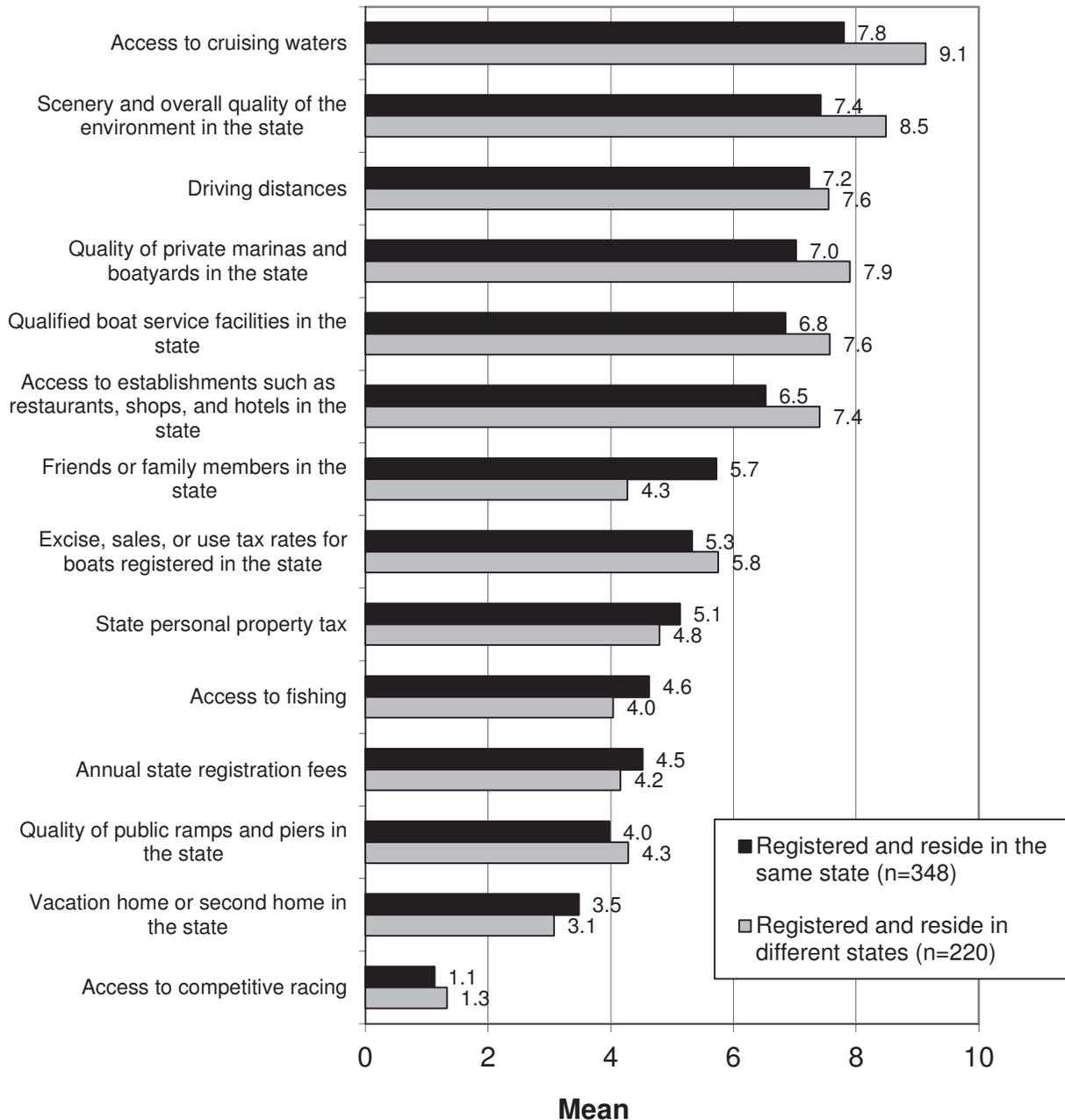
Please rate the importance of each of the following factors in deciding the state in which you registered your boat. (0=unimportant, 10=extremely important)



**Please rate the importance of each of the following factors in deciding the state in which you registered your boat.
(0=unimportant, 10=extremely important)**



Please rate the importance of each of the following factors in deciding the state in which you registered your boat. (0=unimportant, 10=extremely important)



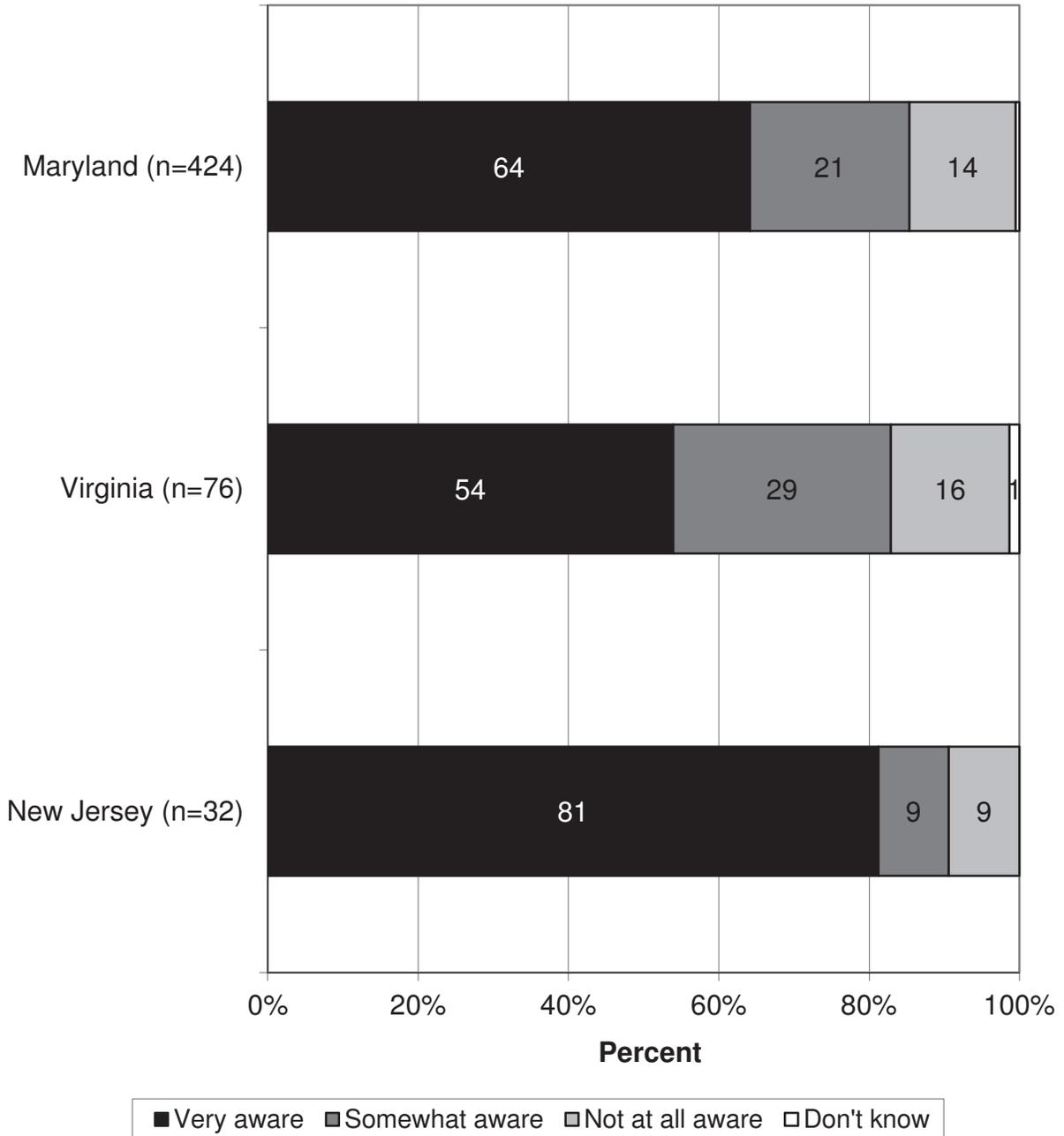
AWARENESS OF EXCISE, SALES, AND USE TAX RATES FOR BOATS

- Boaters were asked about their awareness of taxes on boats that are purchased or registered in Maryland, Virginia, and New Jersey. For all three states, a majority of boaters surveyed are *very* aware of the tax (64% very aware in Maryland, 54% very aware in Virginia, and 81% very aware in New Jersey). When summing *very* aware and *somewhat* aware, the majorities are overwhelming (all at 83% or higher).
 - (This question was asked only of those whose boats were registered in one of those three states. Wording was specific to each state: Maryland—vessel excise tax; Virginia—watercraft sales tax; New Jersey—sales and use tax.)

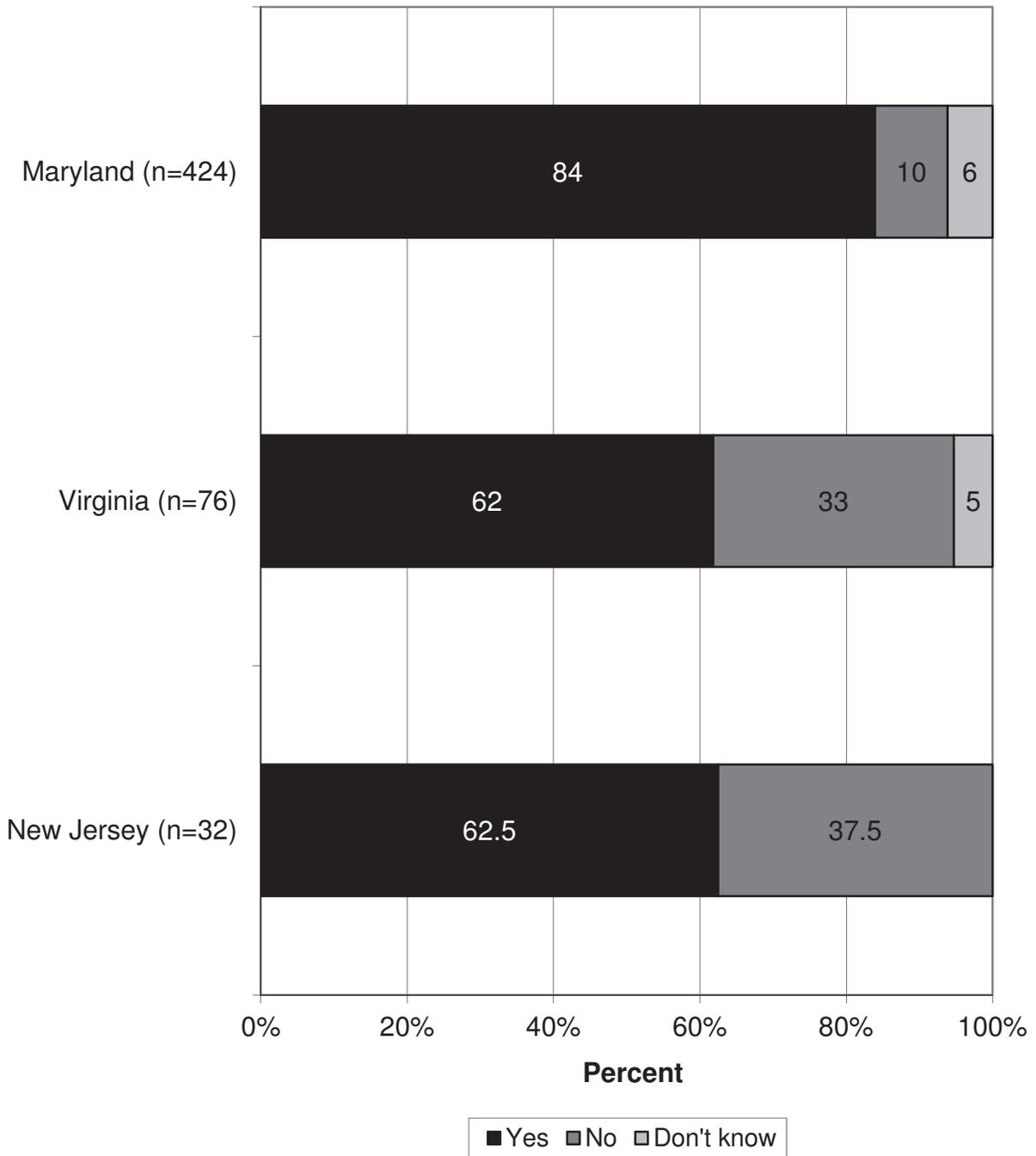
- A second question asked boaters about paying the tax in the past 5 years. A majority in each state had paid the tax in the past 5 years: 84% of those whose boat is now registered in Maryland, and 62% of those whose boat is now registered in Virginia or New Jersey.

- Boaters were asked a general question about awareness of “excise, sales, or use” tax rates on boats in other, nearby states. They are divided roughly into thirds: 31% are *very* aware, 29% are *somewhat* aware, and 38% are *not at all* aware.
 - This question was crosstabulated by those whose boat is registered in Maryland and those whose boat is not; they are about the same on this question.
 - This question was also crosstabulated by those whose boat is registered in their home state and those whose boat is registered elsewhere; those whose boat is registered out of their home state are much more aware.

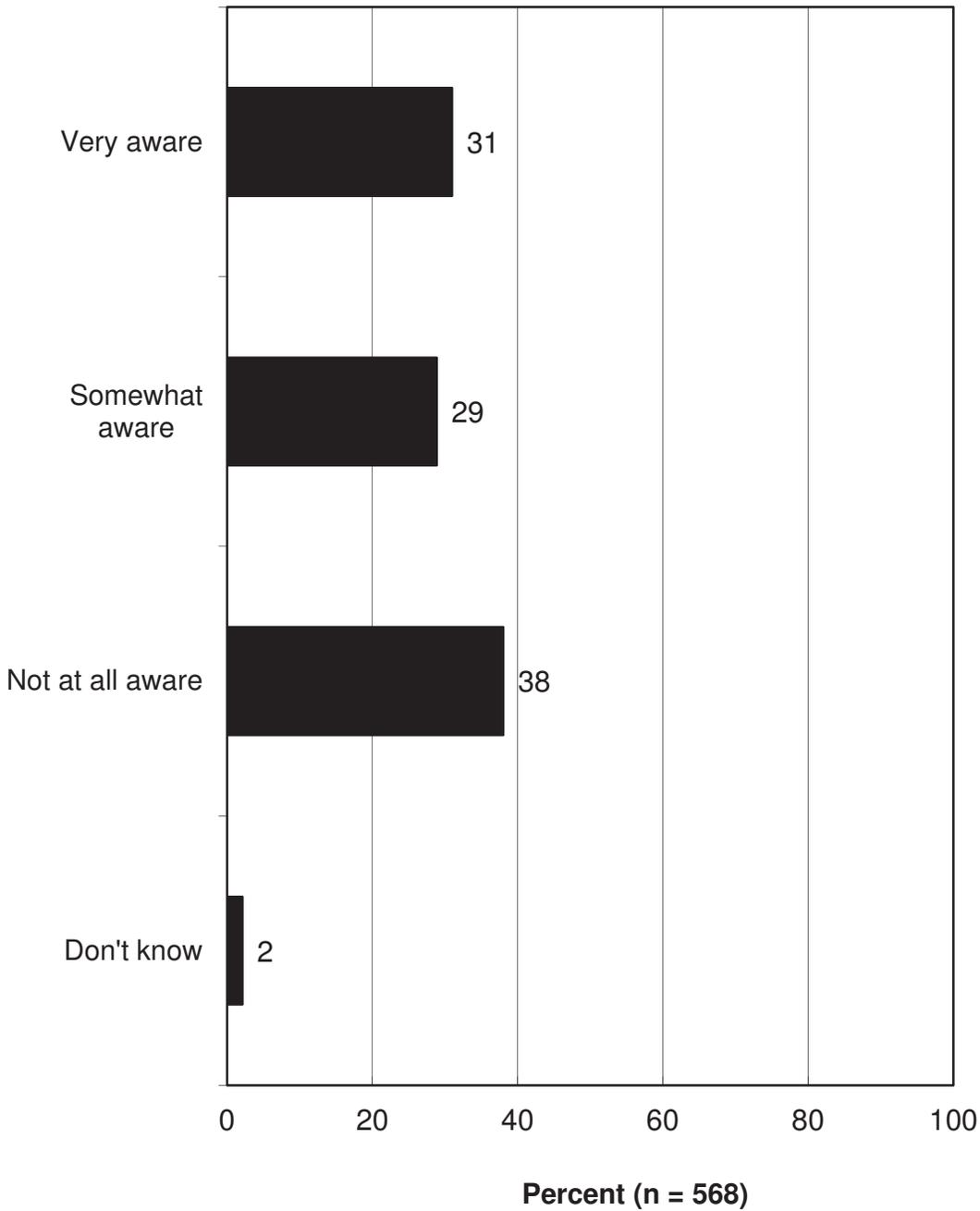
Before this survey, how aware were you of the [Vessel Excise / Watercraft Sales / Sales and Use] tax rate for boats purchased or registered in [STATE]?



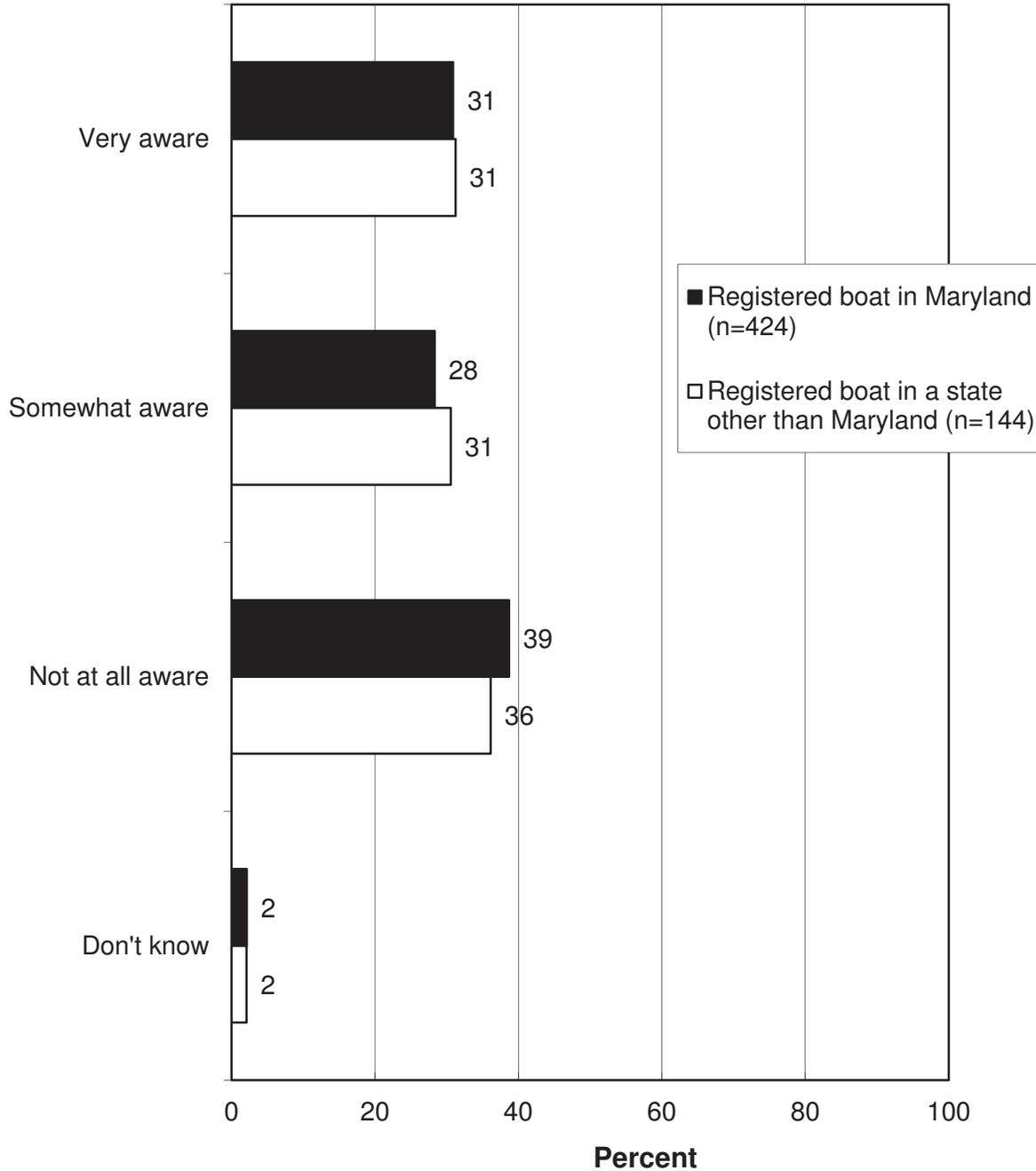
Did you pay the [Vessel Excise / Watercraft Sales / Sales and Use] tax on your boat within the last 5 years?



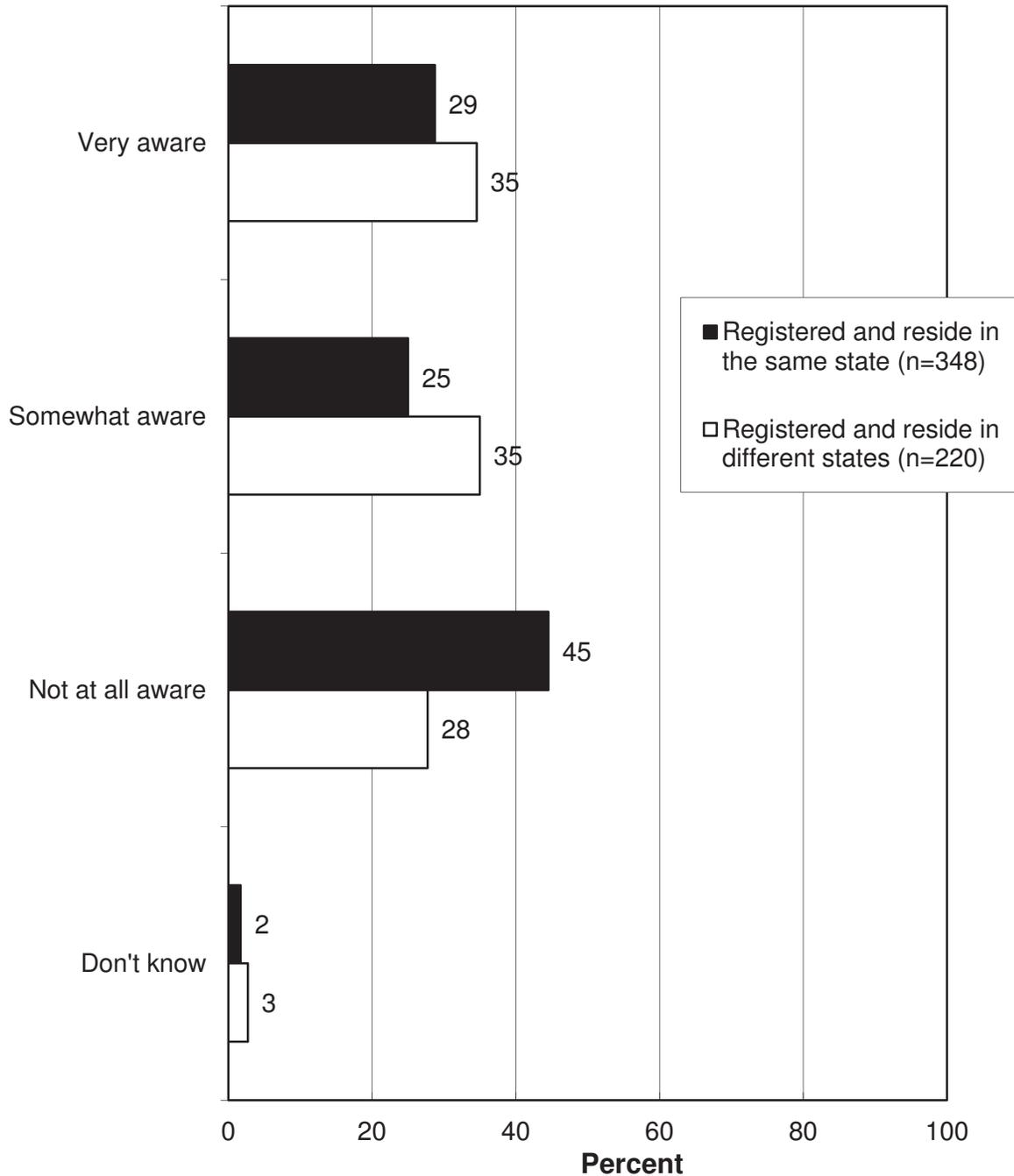
Before this survey, how aware were you of the excise, sales, or use tax rates for boats purchased or registered in other, nearby states?



Before this survey, how aware were you of the excise, sales, or use tax rates for boats purchased or registered in other, nearby states?



Before this survey, how aware were you of the excise, sales, or use tax rates for boats purchased or registered in other, nearby states?

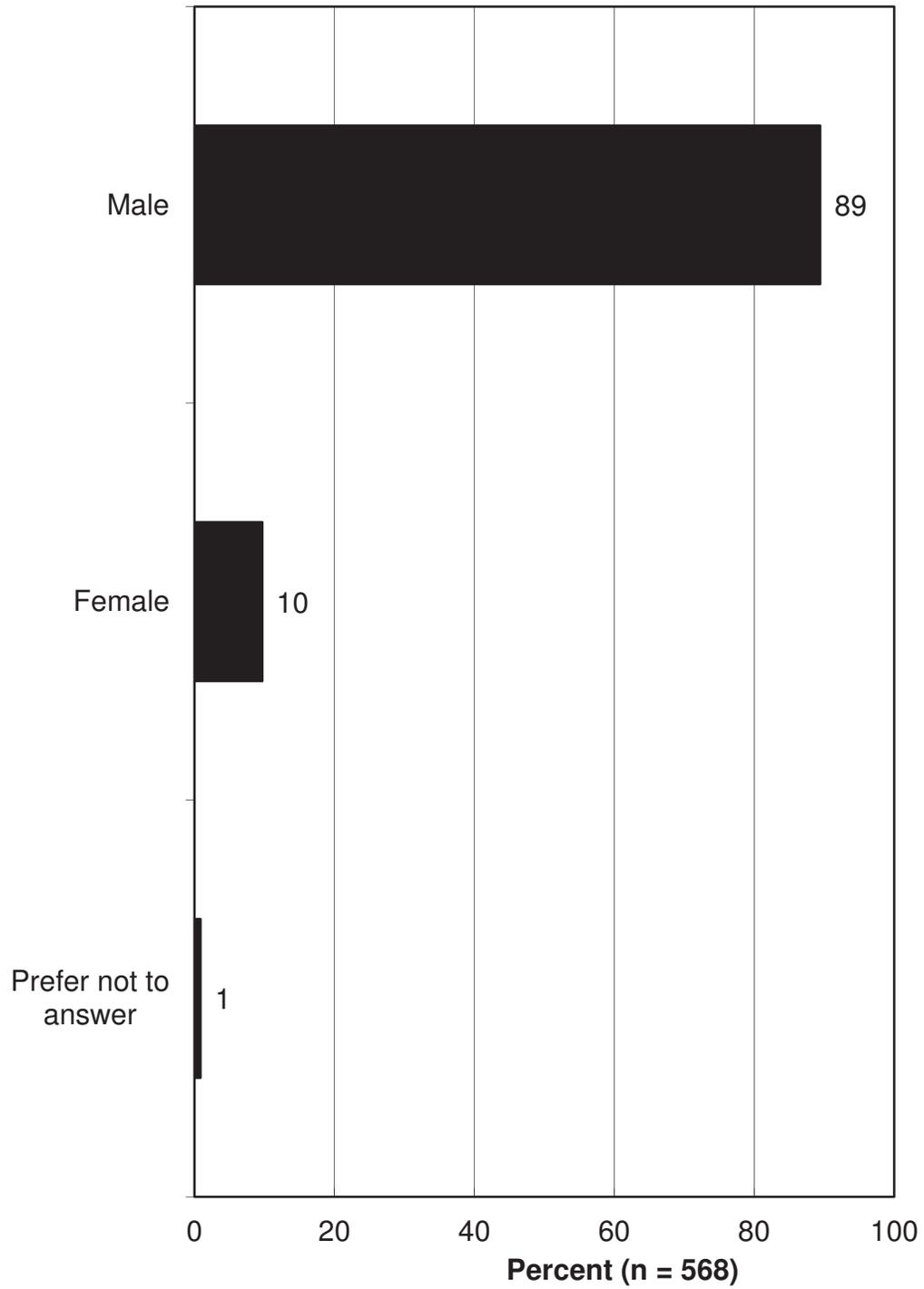


DEMOGRAPHIC DATA

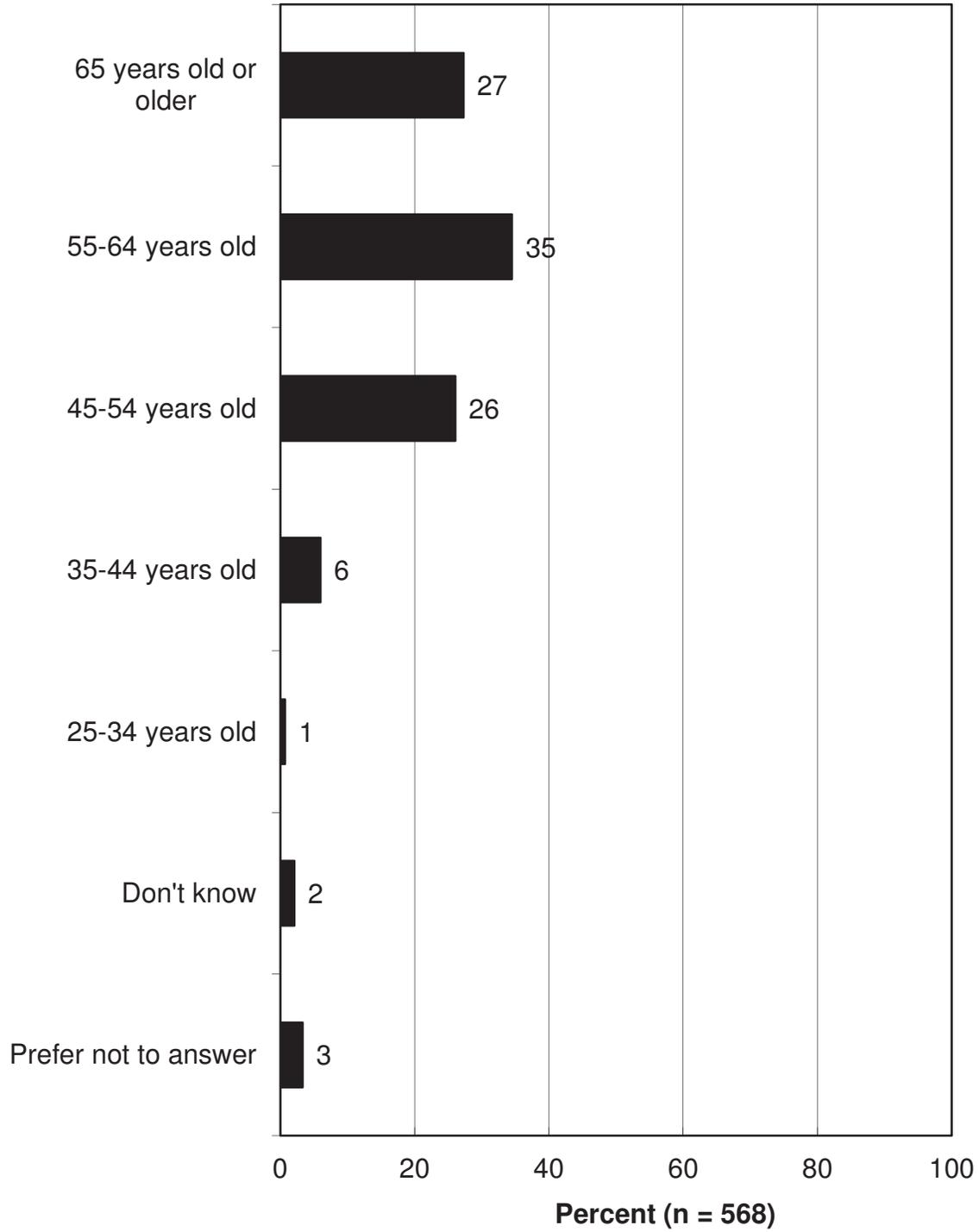
- The following demographic data were gathered in the survey:
 - Gender: Note that many of the boats were owned by couples (i.e., had two stated owners); for this reason, the gender breakdown of respondents does not necessarily reflect true ownership. Nonetheless, 89% of the respondents were male.
 - Age: The ages of boat owners in the survey tend to be older than the general population as a whole. Particularly well represented are the three oldest age categories, which include 88% of the sample (i.e., 88% of the boat owners in the survey are 45 years old or older).
 - Education: In general, the boat owners in the sample are well educated, with 70% having a bachelor's degree (with or without a higher degree).
 - Income: Not surprisingly, incomes in the boat owner group are relatively high, with 19% reporting an annual income of \$400,000 or more. (This category might be higher; a quarter of respondents chose not to divulge their income.)

- As stated in the introduction, the survey was administered to two samples: the first sample of those whose boat was registered in Maryland (consisting of those who lived in Maryland and those who lived out of state), and the second sample of those whose boat was registered in another state (some of whom lived in Maryland and some who did not). The breakdown was as follows:
 - Regarding state of residence, the sample consisted of 42% Maryland residents, and 58% from other states, with Virginia predominating (23% are from Virginia).
 - The predominant states of registry are Maryland (75%), Virginia (13%), and New Jersey (6%).
 - This resulted in 62% of respondents having their boat registered in their state of residence, and 38% of respondents having their boat registered out of their home state.
 - Finally, 41% of the sample are Maryland residents who registered their boat in Maryland, 34% are residents of a different state with their boat registered in Maryland, 1% are Maryland residents who registered their boat outside of Maryland, and 24% are residents of a different state with their boat registered outside of Maryland.

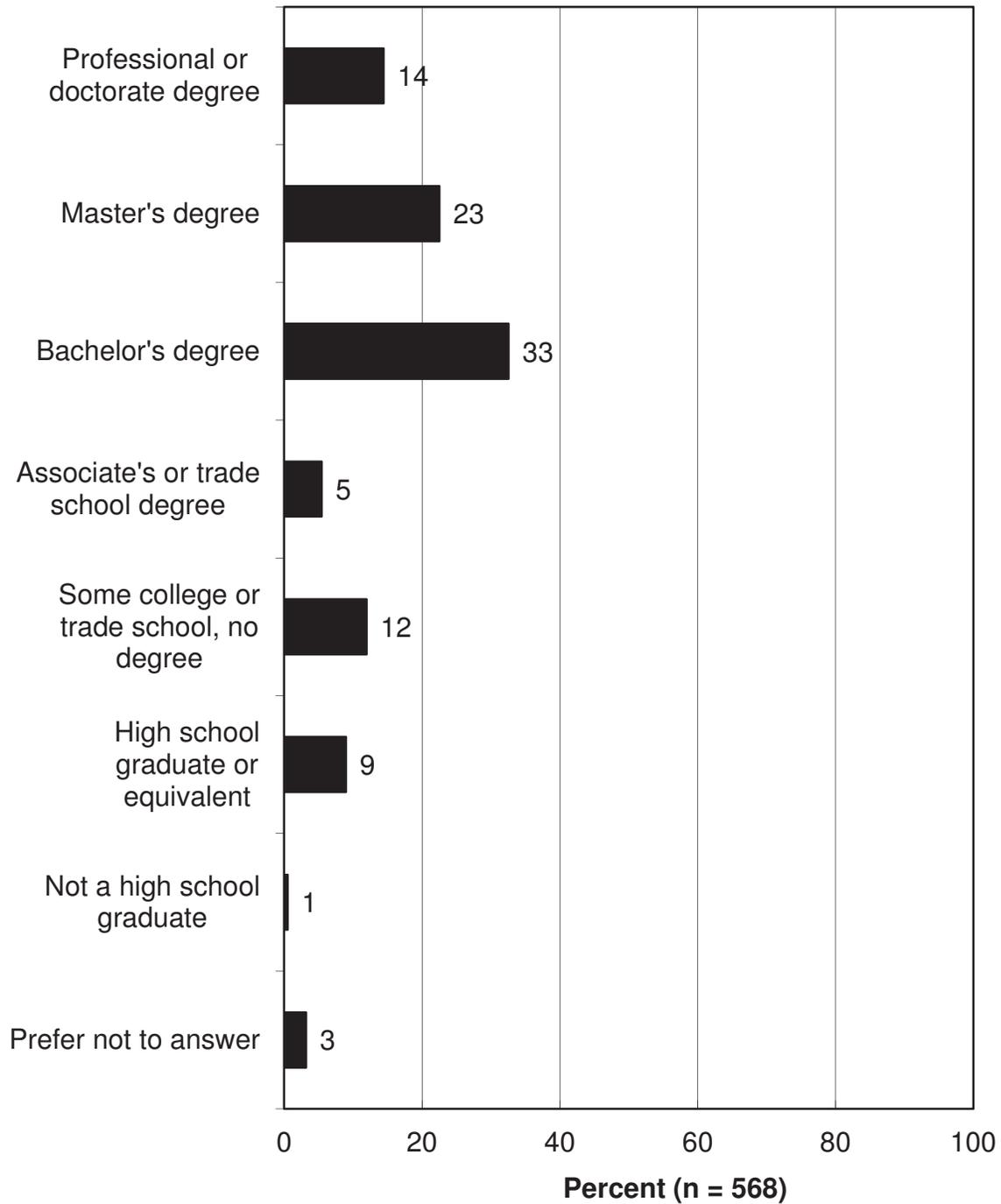
Respondent's gender.



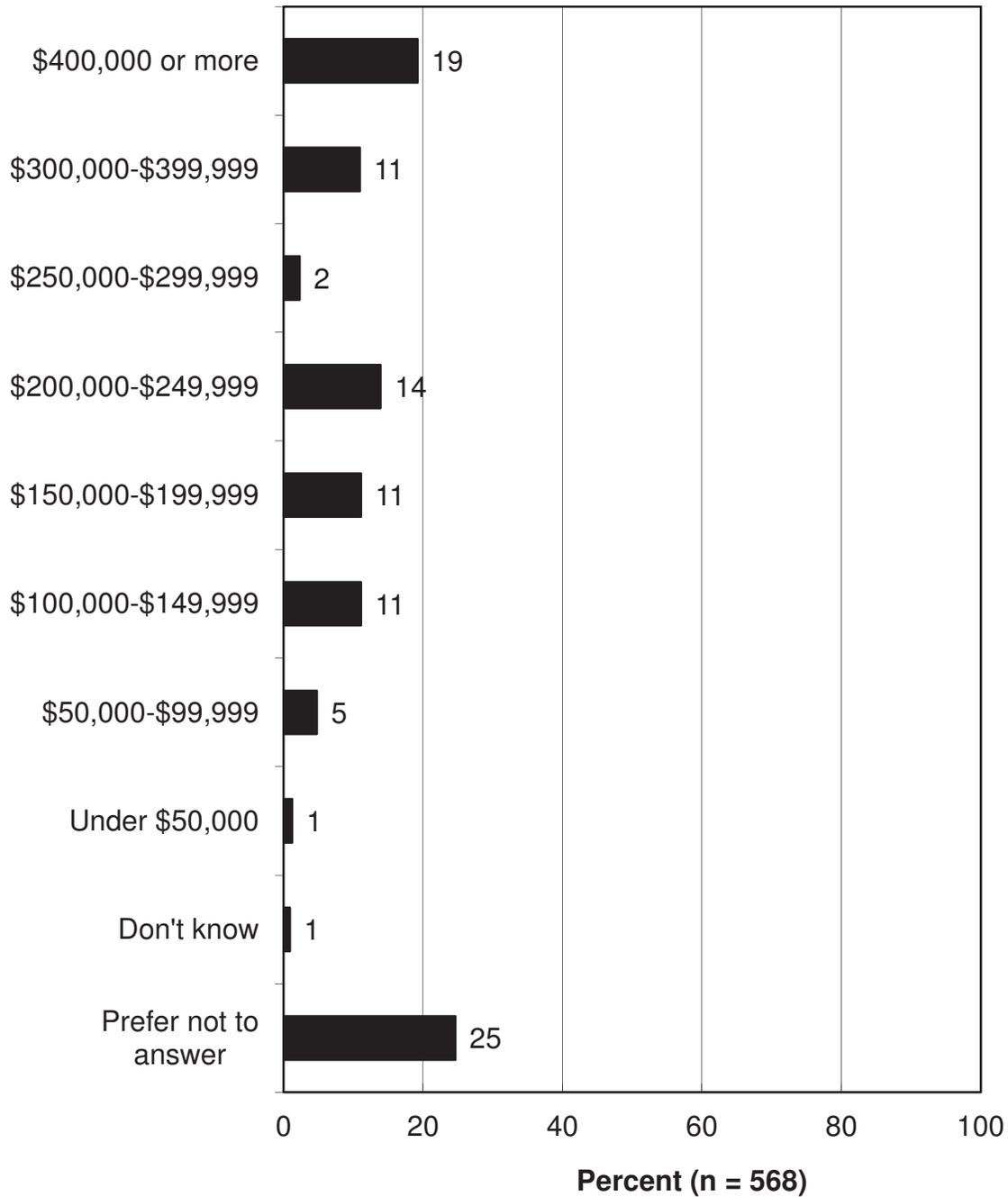
May I ask your age?



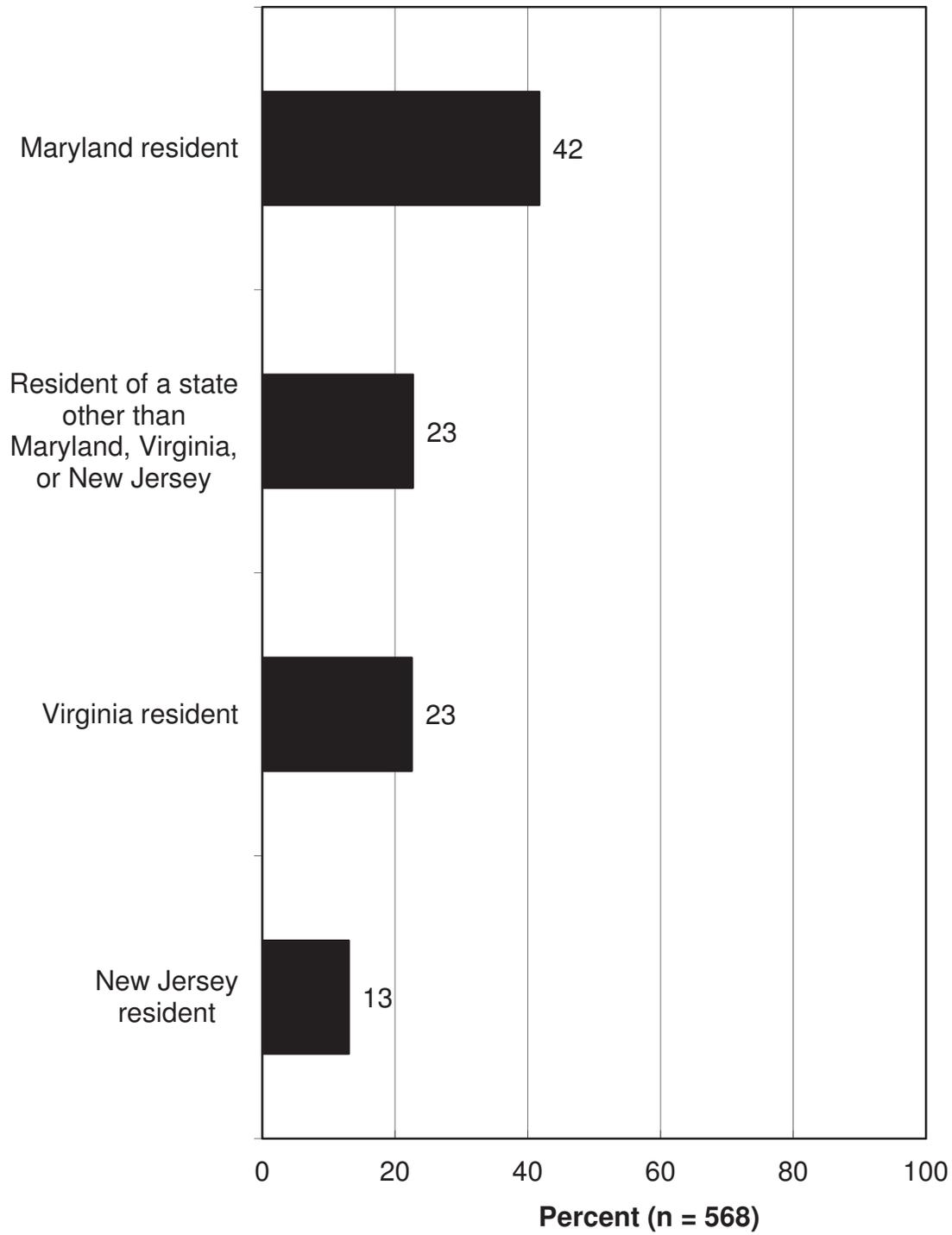
What is the highest level of education you have completed?



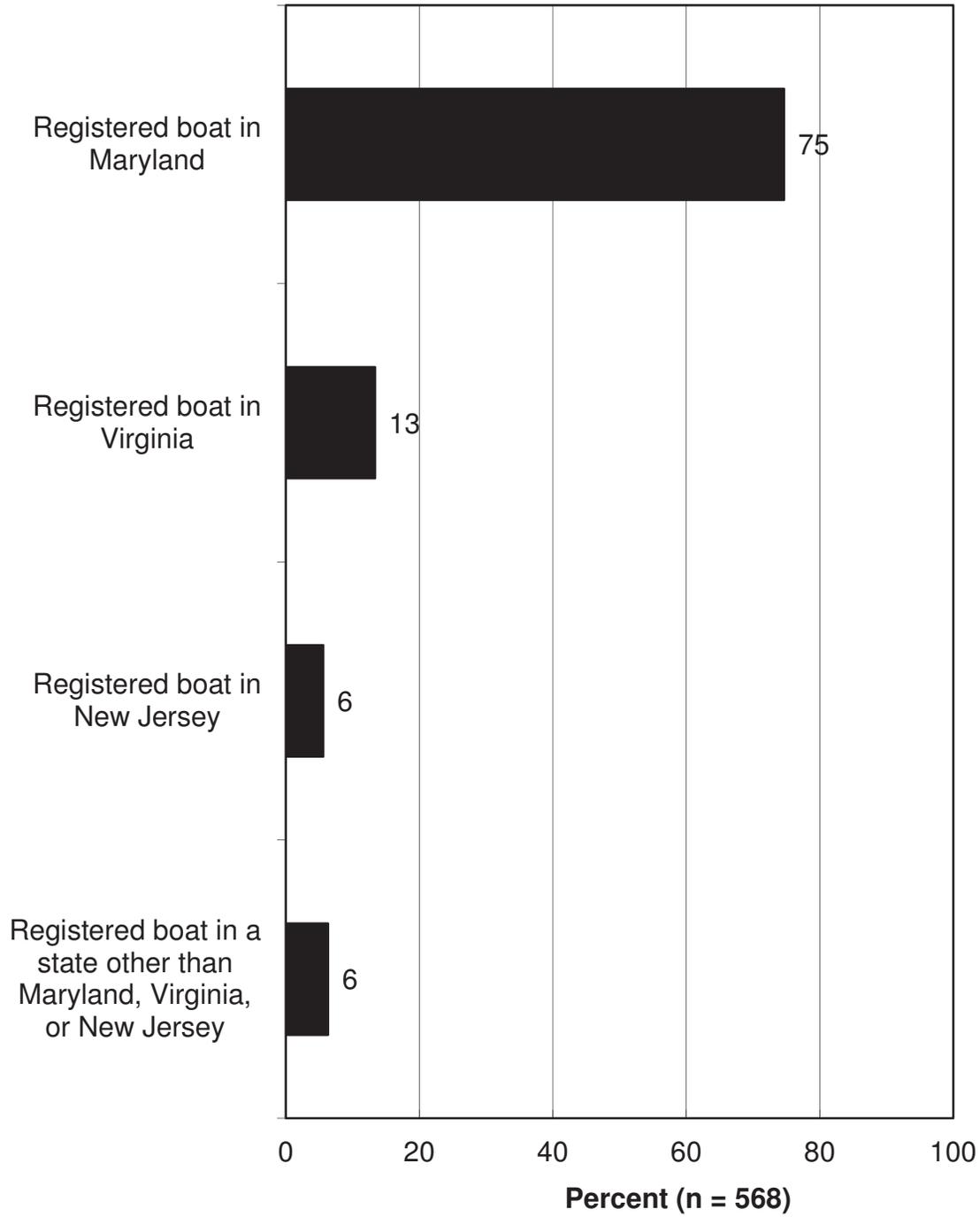
Which of these categories best describes your total household income before taxes last year?



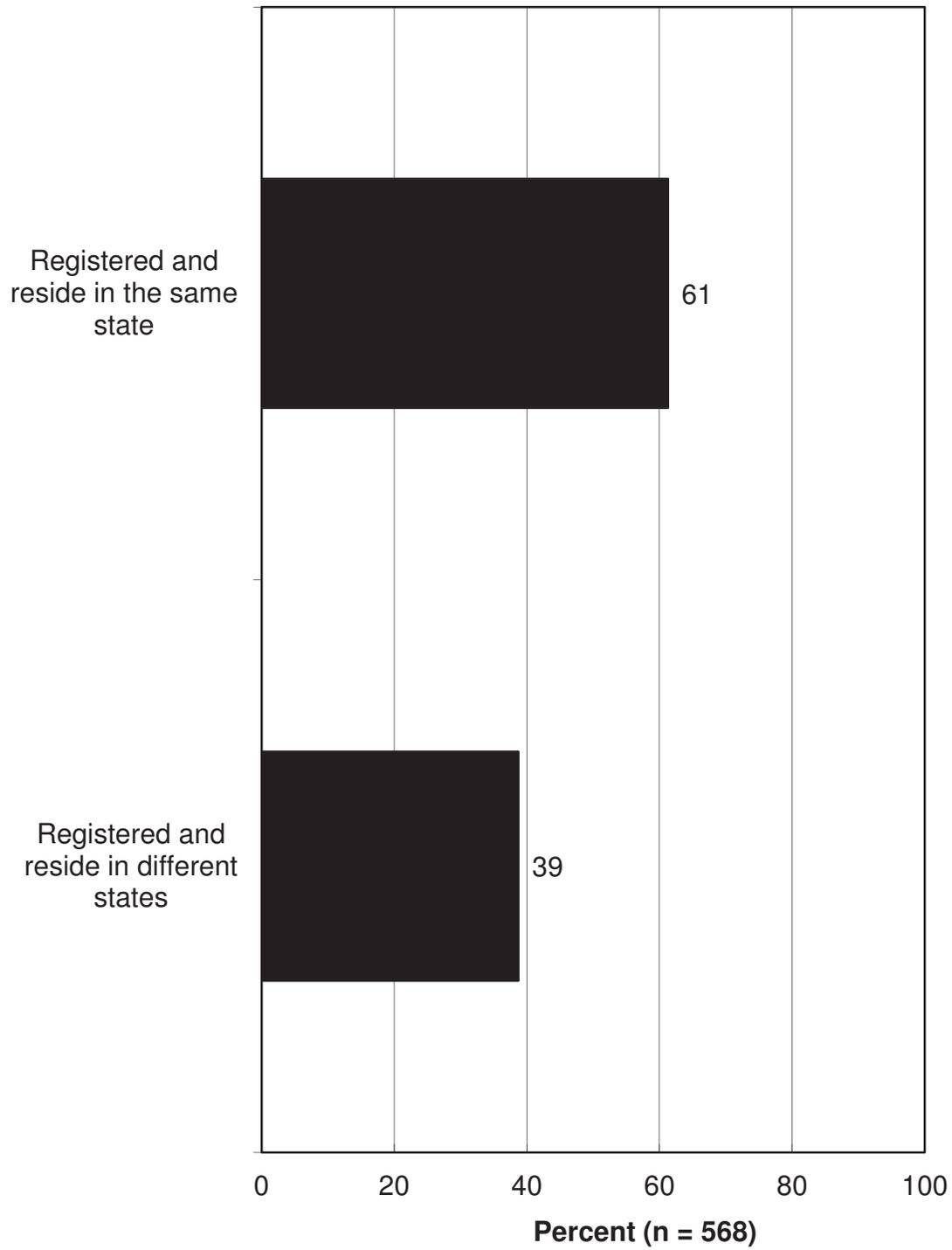
State of residence.



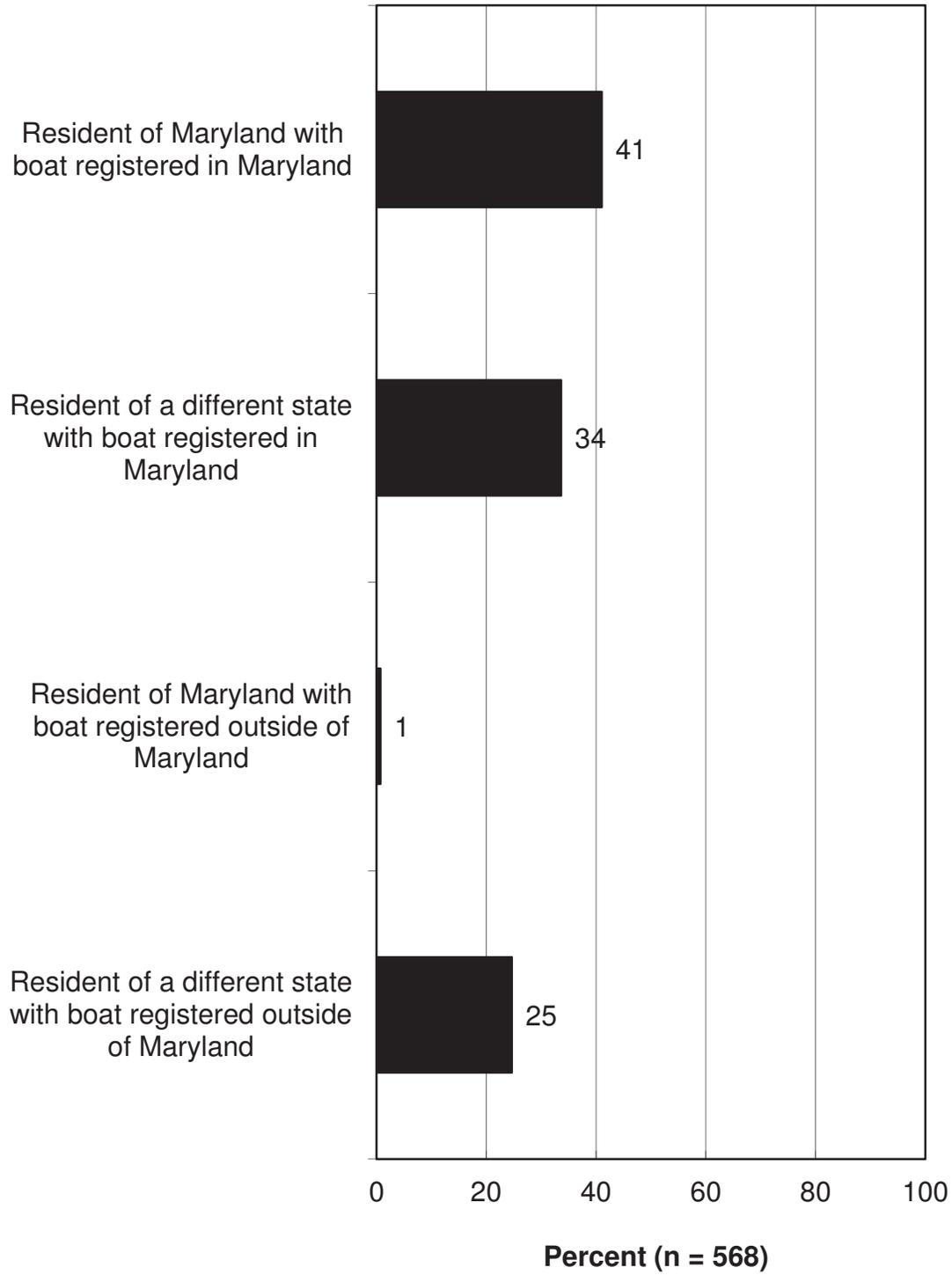
In which state is this boat currently registered?



Residence and registry crossover.



Maryland residence and registry crossover.



ADDITIONAL COMMENTS FROM THE SURVEY

Do you have any other comments or suggestions regarding your boating experiences? (Maryland registrants.)
WiFi is becoming more important - have it but limited.
When will Severn River have a pump-out similar to West/Rhodes River?
We very much like boating in Maryland waters.
We really like Maryland and the Bay; doing a good job cleaning up the Bay.
We need clean water and good easy-to-access pump out facilities, more should be done to clean up Chesapeake Bay. Menhaden harvest should be stopped. Crab pots should be controlled and float free lanes established.
We love it. Been here for 20 years, still love it.
We love Chesapeake sailing best and closest location for us is MD western shore.
We enjoy boating on the Chesapeake and our boat's only 1 1/2 hrs. from home.
Waterways need to be regularly dredged, access to ramps is not good in Anne Arundel County.
Water quality could be improved and reduce runoff.
Water quality is very important. We are looking forward to relocating to FL to get better water quality.
Water quality and responsible management of pollutants (sediment from runoff, sewage outflows from storm water, etc.); to protect the health of the Chesapeake Bay is VERY important to me.
I want to keep the Bay cleaner so it's available for future generations to get to enjoy boating as much as I do.
Want the Bay cleaned more.
Want the Bay to be cared for through legislation to limit pollution like nitrogen dead zones, don't think it is improving.
Upper end of the Bay being cleaner than what they are. At St. Michaels too close to the Bay bridge.
Unhappy with Maryland tax laws levied on vessels which are USCG documented. Love boating in the Chesapeake region.
Trailer registry too high in MD.
You can't make it warmer, can you?
I think the state needs to consider sales/excise tax to encourage larger vessels. MD loses revenue by having too high a tax rate.
There is confusion on where to moor your boat when talking to other people. It is important to register your boat where you keep it. Also the taxes you have to pay are high.
The state needs to install and MAINTAIN more 1st class pump out facilities on the Chesapeake. Use Long Island Sound, Chicago, and SFO as an example to provide better facilities that will encourage people to use their holding tanks.
The polluted water of the Chesapeake definitely affects my plans. Florida waters are clean and also caps its excise tax. An \$18K cap is fine in a state with no state income tax.
The Maryland DNR Compass program seems very difficult to renew fishing license.
The ICW needs to be dredged, not being done properly down to GA is terrible.
The Chesapeake waters can be pretty dirty.
The boating tax rates could be lower in order to get more people to want to boat, and more public launches.
The DNR office is so great.
Taxing the sale of a boat is OK to support the services/waterways, but it should be graduated! 5% up to first \$50,000 then reduce it incrementally. Taxing at the same rate (almost) as buying clothes or food is onerous and an incentive NOT to base in MD!
Taxes down.

Do you have any other comments or suggestions regarding your boating experiences? (Maryland registrants.)
Survey on marina should specify marina itself or the vicinity.
Surprised didn't ask water quality of Chesapeake Bay.
Sassafras River is the best area in the Chesapeake Bay.
Restrict the width that planar boards can be; in other words the planar boards cannot take up more than say 20 feet of water on either side of the fishing/trolling boat. In this example the boards would take 40 feet of water if on both sides of the boat plus the boat beam, which would be too much water for one boat to occupy.
Restaurants on the water are very important to boaters and communities. And the better the community will develop.
Pump-out service are declining; we need them to be more accessible and in need of more funds for the marinas to update their machinery and more affordable for the boaters.
Provide more destination, i.e., public boat facilities with non-permanent moorings and docks for visitors so that people can enjoys adventures in the bay, visiting various communities.
Police cruise area; would like to see more police in the area.
Outlaw whatever you call those floats with fishing lines attached that run up to 100+ feet from the sides of pleasure fishing boats. Having to constantly spot and avoid them can ruin an otherwise pleasant cruise. Even ocean-going freighters don't take up that much room!
On the bay it would be helpful if they put some kind of restrictions on crabbing in the boat channels. I don't understand why that is allowed—it can damage a boat and is very dangerous.
Maryland does a good job.
We love the water and boating.
Just enjoying going boating.
Next boat will probably NOT be located/registered in MD due to the excise tax.
Never forgiven marine police for ticketing Jan 1 race.
Need to do a better job of policing the Kent Narrows.
More access to pump outs.
MD waters are tragic and getting worse, need to invest in cleaning it up, downtown Baltimore waters are a cesspool.
MD needs to lower sales tax on boats.
MD needs to dredge back bays of Ocean City.
MD is doing a pretty good job.
Maryland should remove some of the crab traps from the bay and lower the excise tax.
Maryland should lower excise tax on boats.
Maryland should invest more in protecting the Bay from pollution, public moorings, docks and encouraging Bay-side commercial business. Save the Bay.
Marina fees including public are driving people out of boating, fees are too high, my boat is up for sale.
Many creeks and small rivers need dredging. Some places have become too shallow to navigate with larger boats so those areas lose revenue from the people with (typically) the most to spend.
Make the fishing better.
Make dredging more readily available with less red tape for marinas.
Make all boaters aware of other boaters' rights and the seafaring rules of the road. The guys selling the boats don't inform buyers of the rules of boat ownership and safety.
Lower the taxes.
Lower taxes, increase water quality.
Lower sales taxes, taxes and fees.
Love the eastern shore and boating in MD, great sailing.
Love boating in Maryland. Wish I lived closer.

Do you have any other comments or suggestions regarding your boating experiences? (Maryland registrants.)

Like to see better water quality.

Like many other things in Maryland, the boating environment here is not as attractive as it once was. My current boat is for sale and it's unlikely I will register/locate a boat here in the future.

Keep working on cleaning up the Bay.

Keep the float free channels free of floats.

Keep the Bay clean, maintain fishing restrictions and catch limits, and availability of water destinations are a plus.

Keep taxes down on marine fuel; more people boating.

Keep cleaning the Chesapeake Bay, and more floating docks.

I would like to have a facility like Indian River Marina in Delaware—they cost half of Sunset Marina and its a state-run facility. There is a park pass that allows access to the state ramps, fee doubled from \$26 to \$52 because of Governor.

It is hard to get through the crab fields.

In respect to Baltimore, the water quality and restrictions to docking are going to force you to relocate, probably to Eastern Shore MD.

MD DNR police rude, disrespectful, arrogant, hateful.

In Maryland there are not enough fuel docks in the Bay area, affects ability to boat, big problem.

If you live on your boat, you should be given tax relief as a household.

I'm very satisfied with the state of Maryland.

I'm U of M alumni and continue the Bay cleanup to maintain water quality.

I wish MD didn't have sales tax.

I think the state should do everything they could possibly do to clean up the Bay.

I just hope we can continue to work and keep the waters clean so that we and our children can enjoy them.

Get more people to keep the Bay clean and use it.

Fund free pump out for Baltimore's inner harbor.

Force boaters to pass boating tests both in rules, navigating and maneuvering

Excise tax is abusive, congress is lame for not funding a clean up for Chesapeake Bay.

Excise tax is a little brutal.

Every marina should be required to have a pump out at the dock whether installed or portable.

Editor of The Chesapeake Bay Waterway Guide—interested in what the survey results will be.

Docking fees too high in Baltimore.

Do something about crabbing regulations. Have to register crab pots. It's too strict.

Did not ask about environmental quality of waters/pollution.

Crab traps are a huge hazard to boaters when they are placed right outside the marina. It's like a mine field that you have to go through and impossible to see at night.

Clean up the water, MD.

Clean up the Chesapeake Bay water, work on dredging.

Clean up the Chesapeake Bay, it's in terrible condition.

Clean up the Bay and lower the boating taxes. Keep the spending down, we don't have a revenue problem, we have a spending problem.

Clean the trash out of the Baltimore harbor and do so more often; there's too much in the harbor, its looking like a landfill instead of a harbor.

Chesapeake Bay region water quality improvement resulting from completion of EPA cleanup plans will significantly enhance Virginia and Maryland's boating experience.

Chesapeake Bay is a great boating environment.

Do you have any other comments or suggestions regarding your boating experiences? (Maryland registrants.)
Channel 16 Coast Guard messages/alerts/warnings - very few speak clearly or slowly enough to understand the messages, that's the only irritating thing about boating in Maryland waters.
Better policing and informing new boaters of rules & regulations.
Baltimore is garbage heaven! Why is there so much floating garbage than they make NO EFFORT to contain and clean the Bay. Baltimore also makes NO EFFORT for transit boaters with dinghy docks near grocery stores, West Marine for parts, or to spend money in Harbor East or Fells Point. Dinghy dock should be FREE to use.
Any time you want to do something to improve boating, just give me a call.
12-month season.
1. No credit offered for anchorage locations and recreational boating density (over crowding) when making location decisions. 2. No chance to inform the government of the fact that increasing taxes and permits WILL eventually force me to abandon boating altogether.
\$10.00 to register my 50' sailboat in Maryland is way too cheap!
A lower excise rate will encourage boat owners to keep boats and service boats in MD. MD answers every question with raising taxes. We are considering moving out of state

State of Boat Registration	Do you have any other comments or suggestions regarding your boating experiences?
Delaware	<p>You can't beat the Chesapeake for cruising. Great destinations with St Michael's, Annapolis etc., they offer very good facilities and things to do. Plus the protected weather of the Bay is super. Ethanol free gas would be a plus for gas purchased on the water in all states. I like the big water fishing on the ocean so I enjoy DE and it's proximity to the fishing. DE is adding some restaurants on the water - IR inlet marina and that's a big improvement.</p> <p>Maryland (relative to cruising destinations in DE, NJ, PA, and MD) has some of the best scenic waterways and best marinas around. Taxes in MD however prevent many boaters from spending more time there.</p>
District of Columbia	<p>But for the Maryland Excise Tax; I would locate my boat in Maryland waters year around. The state of Maryland loses the annual slip rental, restaurant revenue, weekend slip rentals, fuel purchases, shopping, dry dock revenue and hotel accommodations I would otherwise spend if I could be there year around as opposed to three months each summer. The State really loses money on me because of the excise tax; I spend an average of \$15,000 annually in the three months I am on the Bay. Which would more than double if I were there all the time. Bad business decision for the state of Maryland in my case.</p>
Federally documented or Coast Guard documented	<p>Very concerned about FL anchoring rights, trying to restrict in residential areas, would not want to see that in MD; narrows channel dredging needed in the Chesapeake Bay; do appreciate improvements done to improve boating.</p> <p>I live in NJ about 10 minutes from the casinos & I would never register a boat here! The Chesapeake is the only place I would ever keep my boat.</p> <p>In navy, boat registered with coast guard, not any state.</p>
Florida	<p>This MD boating is fantastic, cost of fuel and the amount of ethanol is problem in MD, better opportunities to boat.</p>
North Carolina	<p>The Chesapeake Bay is a wonderful place to boat but the cost of all taxes and the cost of Maryland is too high.</p> <p>Make sure other states drop their excise and use taxes.</p>
New Jersey	<p>Next time I will think about options (tax) in other states.</p> <p>New Jersey needs to start doing things, Maryland does.</p> <p>Marine police need to be MUCH more active and present. Tickets need to be issued and speed limits need strict enforcement. Also, noise levels need significant reduction, the db level is higher than a jet engine...Pitiful.....just pitiful.</p>
Pennsylvania	<p>More focus on pump-outs.</p>
Rhode Island	<p>Excise tax more than most states.</p>

State of Boat Registration	Do you have any other comments or suggestions regarding your boating experiences?
Virginia	Very happy with our boating here.
	The biggest negative about boating in the Potomac is the cleanliness of the water.
	Protect the rockfish for recreational people.
	Prince William marina is great in every aspect.
	Need to keep marina access open and markers in good shape.
	Look for deep water, well protected marina, easy to navigate channel.
	Keep the no property tax in the counties in VA where there are none.
	I think surge and pump-out controls are over regulated, there are suitable ways to manage waste other holding tanks. Property taxes and use taxes are becoming excessive in regards to boating in general.
	I think a lot of marinas are run down and need repairs, would help the experience if upgraded. Ground fall protection for all marinas.
	I like for the price of gas to go down.
	Glad someone else's tax dollars are paying for this thing.
	Get rid of the personal property taxes on boats in Maryland and more people will keep their boats there.
	Fun to boat in Maryland, for Southern Bay good to publish more info about marinas etc. in the Chesapeake Bay magazine, or website.
	Fallacy: people believe if you are on a boat that you are wealthy, spend more on boat than on house, if taxes go up I would leave.
	Do away with EEZ.
	Any public docks run by cities in Maryland are the poorest run, but in the best locations. And private marinas are A+++

RESULTS OF NONRESPONSE BIAS TEST

To determine the effect of any possible nonresponse bias, the researchers compared data among those interviewed by telephone and who stated that their boat was registered in Maryland between those who responded initially (labeled “initial group”) to those who had not responded to the survey and who were specifically called as part of the nonresponse bias test (labeled “secondary group”). The researchers compared the two groups across a variety of variables, including demographic information, attitudes, and awareness. To determine the significance of any differences in responses, two levels of statistical significance were used: a standard $\alpha=0.05$, and a second with a Bonferonni correction applied to account for the large number of significance tests conducted, resulting in a corrected α level of 0.001 (48 significance tests).

For the nonparametric data, chi-square tests were used. Descriptives and significance values for the examined nonparametric variables can be found in Table 1. No significant relationships were found among the 4 examined variables at either level of α ($p < 0.05$, and $p < 0.001$).

For the continuous data, independent-sample t -tests were used. Descriptives for the examined continuous variables can be found in Table 2. Prior to significance testing, tests for homogeneity of variance were run, and the researchers found significant differences between the initial and secondary groups in variability for two of the reasons given for registering or considering registering in Maryland, two of the importance ratings of features when selecting a mooring location, and two of the importance ratings of features when selecting a registering location. For these six variables, t -tests with Welch-Satterthwaite approximations were used in place of standard t -tests. Test values and significance values for the examined continuous variables can be found in Table 3.

For reasons given for registering or considering registering in Maryland, the percentage who gave tax related reasons was found to be significantly different between the initial and secondary groups at the 0.05 level, $t(277) = 2.67$, $p = 0.008$, such that the initial group was found to have given tax related reasons more often than the secondary group.

For importance ratings of features when selecting a mooring location, “water at dock” was found to be significantly different between the initial and secondary groups at the 0.05 level, $t(90.23) = -2.14$, $p = 0.035$, such that the secondary group was found to have higher ratings of importance for “water at dock.”

For importance ratings of features when selecting a registering location, “access to establishments such as restaurants, shops, and hotels in the state” was found to be significantly different between the initial and secondary groups at the 0.05 level, $t(90.23) = -3.21$, $p = 0.002$, such that the secondary group was found to have higher ratings of importance for “access to establishments such as restaurants, shops, and hotels in the state.”

None of these three variables, however, were found to be significantly different at the corrected α level of 0.001, and all three failed the initial tests of equivalent variance. Of note in these homogeneity of variance tests, there were 0 cases in the secondary group that indicated a tax-related reason for registering or considering registering in Maryland (and thus no variability),

indicating a failure of additional necessary statistical assumptions for the standard and approximated *t*-test. No other significant relationships were found at either α level.

Based on these tests, in particular the failure of any variable to achieve statistical significance at the corrected α level of 0.001, the results suggest that there is unlikely to be any substantial population difference between those participants that responded to the initial survey and those that were called in the nonresponse bias test.

		Initial		Secondary		χ^2 (Pearson)	df	p
		n	%	n	%			
Gender	Male	259	93.17	40	259.00	2.137	1	0.144
	Female	19	6.83	6	19.00			
Education Level	Not a high school graduate	2	0.72	0	0.00	7.444	7	0.384
	High school graduate or equivalent	34	12.23	5	10.87			
	Some college or trade school, no degree	26	9.35	9	19.57			
	Associate's or trade school degree	21	7.55	3	6.52			
	Bachelor's degree	89	32.01	11	23.91			
	Master's degree	57	20.50	7	15.22			
	Professional or doctorate degree	39	14.03	10	21.74			
Refused	10	3.60	1	2.17				
Income	Under \$50,000	6	2.16	0	0.00	7.055	8	0.531
	\$50,000-\$99,999	12	4.32	5	10.87			
	\$100,000-\$149,999	30	10.79	5	10.87			
	\$150,000-\$199,999	34	12.23	4	8.70			
	\$200,000-\$249,999	36	12.95	3	6.52			
	\$250,000-\$299,999	2	0.72	0	0.00			
	\$300,000-\$399,999	28	10.07	6	13.04			
	\$400,000 or more	53	19.06	8	17.39			
Refused	77	27.70	15	32.61				
Awareness of tax rates for boats purchased or registered in nearby states	Very aware	89	32.01	7	15.22	5.658	3	0.129
	Somewhat aware	73	26.26	16	34.78			
	Not at all aware	115	41.37	23	50.00			
	Don't know	1	0.36	0	0.00			

Nonresponse Bias Test Table 2. Means of Initial and Secondary Groups							
		Initial			Secondary		
		<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>
Demographics	Age	264	58.36	9.80	44	57.73	10.58
		<i>n</i>	<i>M (%)</i>	<i>SD</i>	<i>n</i>	<i>M (%)</i>	<i>SD</i>
Reasons given for registering in Maryland	Proximity to residence/convenience	278	61.87	0.49	46	58.70	0.50
	Boat stored here	278	12.59	0.33	46	13.04	0.34
	State of primary use	278	10.43	0.23	46	6.52	0.21
	Prefer/enjoy boating here	278	10.07	0.30	46	15.22	0.36
	Obligated/required by law to register here	278	6.47	0.31	46	6.52	0.25
	State of purchase	278	5.76	0.25	46	4.35	0.25
	Tax related reasons	278	2.52	0.16	46	0.00	-
	No reason given	278	1.08	0.10	46	0.00	-
		<i>n</i>	<i>M (0-10)</i>	<i>SD</i>	<i>n</i>	<i>M (0-10)</i>	<i>SD</i>
Importance rating when selecting a mooring location (0 = unimportant, 10 = important)	Parking for vehicle and/or trailer	278	5.29	3.55	46	4.37	3.39
	Launch ramps	278	2.02	2.95	46	1.67	2.57
	Slips	278	8.39	2.48	46	8.13	2.66
	Moorings	278	4.34	3.29	46	4.57	3.36
	Dinghy storage	278	2.62	2.93	46	3.07	2.98
	Bathrooms and showers	278	7.32	2.88	46	7.07	2.62
	Marine supplies	278	6.51	2.24	46	5.96	2.61
	Swimming pools	278	4.77	2.95	46	4.91	3.12
	Playgrounds	278	1.75	2.29	46	2.00	2.36
	Pump-out facilities	278	7.48	2.57	46	7.85	2.05
	Trash disposal	278	7.66	2.58	46	7.78	2.08
	Recycling	278	6.37	2.97	46	6.15	2.64
	Access to repairs and maintenance	278	6.49	2.70	46	6.15	2.97
	Haul-out facilities	278	5.96	3.10	46	5.80	3.16
	Destinations within cruising range	278	8.20	2.05	46	7.72	2.07
	Restaurant	278	7.25	2.32	46	7.33	2.25
	Chandlery/store	278	5.58	2.44	46	5.93	2.08
	Electricity at dock	278	8.57	2.47	46	8.98	1.79
	Water at dock	278	8.53	2.31	46	9.07	1.42
	Availability of fuel	278	7.30	2.41	46	7.41	2.18
Dockhands	278	5.32	3.06	46	5.65	2.76	
Importance rating when selecting a registration location (0=unimportant, 10=important)	Driving distances	278	6.98	3.41	46	7.13	3.10
	Access to cruising waters	278	8.39	2.75	46	8.30	3.01
	Access to fishing	278	4.92	3.97	46	4.24	3.59
	Access to competitive racing	278	1.32	2.41	46	1.26	2.61
	Annual state registration fees	278	4.21	3.59	46	3.54	3.39
	State personal property tax	278	4.65	3.97	46	4.76	3.78
	Scenery and overall quality of the environment in the state	278	8.03	2.72	46	8.35	1.80
	Access to establishments such as restaurants, shops, and hotels in the state	278	7.01	3.01	46	8.15	2.08
	Quality of public ramps and piers in the state	278	4.53	3.52	46	5.09	3.49
	Quality of private marinas and boatyards in the state	278	7.37	3.04	46	8.00	2.44
	Qualified boat service facilities in the state	278	7.25	3.03	46	7.39	2.86
	Excise, sales, or use tax rates for boats registered in the state	278	5.49	3.63	46	5.74	3.11
	Friends or family members in the state	278	4.86	3.98	46	4.93	4.06
	Vacation home or second home in the state	278	3.30	4.01	46	3.41	4.15

Nonresponse Bias Test Table 3. Significance Tests of Initial and Secondary Groups					
		$M_1 - M_2$	t -value	df	p
Demographics	Age	0.64	0.39	306	0.694
Reasons given for registering in Maryland	Proximity to residence/convenience	3.17	0.41	322	0.683
	Boat stored here	-0.45	-0.09	322	0.932
	State of primary use	3.91	0.82	322	0.412
	Prefer/enjoy boating here	-5.15	-0.91	55.73	0.367
	Obligated/required by law to register here	-0.05	-0.01	322	0.990
	State of purchase	1.41	0.38	322	0.701
	Tax related reasons	2.52	2.67	277.00	0.008*
	No reason given	1.08	0.71	322	0.481
Importance rating when selecting a mooring location (0 = unimportant, 10 = important)	Parking for vehicle and/or trailer	0.93	1.65	322	0.100
	Launch ramps	0.35	0.75	322	0.452
	Slips	0.26	0.65	322	0.518
	Moorings	-0.23	-0.43	322	0.666
	Dinghy storage	-0.45	-0.96	322	0.340
	Bathrooms and showers	0.25	0.55	322	0.579
	Marine supplies	0.55	1.52	322	0.130
	Swimming pools	-0.15	-0.31	322	0.757
	Playgrounds	-0.25	-0.68	322	0.498
	Pump-out facilities ^a	-0.37	-1.09	70.64	0.281
	Trash disposal	-0.12	-0.31	322	0.756
	Recycling	0.21	0.46	322	0.645
	Access to repairs and maintenance	0.33	0.77	322	0.445
	Haul-out facilities	0.16	0.32	322	0.747
	Destinations within cruising range	0.48	1.48	322	0.140
	Restaurant	-0.07	-0.20	322	0.840
	Chandlery/store	-0.36	-0.93	322	0.351
Electricity at dock	-0.41	-1.07	322	0.287	
Water at dock ^a	-0.54	-2.14	90.23	0.035*	
Availability of fuel	-0.11	-0.30	322	0.762	
Dockhands	-0.33	-0.68	322	0.495	
Importance rating when selecting a registration location (0 = unimportant, 10 = important)	Driving distances	-0.15	-0.28	322	0.782
	Access to cruising waters	0.09	0.20	322	0.843
	Access to fishing	0.68	1.09	322	0.278
	Access to competitive racing	0.06	0.14	322	0.886
	Annual state registration fees	0.67	1.18	322	0.239
	State personal property tax	-0.11	-0.17	322	0.861
	Scenery and overall quality of the environment in the state	-0.32	-0.77	322	0.439
	Access to establishments such as restaurants, shops, and hotels in the state ^a	-1.14	-3.21	80.20	0.002*
	Quality of public ramps and piers in the state	-0.56	-1.00	322	0.317
	Quality of private marinas and boatyards in the state	-0.63	-1.34	322	0.183
	Qualified boat service facilities in the state	-0.14	-0.29	322	0.771
	Excise, sales, or use tax rates for boats registered in the state ^a	-0.25	-0.50	67.00	0.619
	Friends or family members in the state	-0.08	-0.12	322	0.906
Vacation home or second home in the state	-0.11	-0.18	322	0.858	

a. These variables failed the initial Levene's test for homogeneity of variance

*. These variables were found to have significant differences at the $p < 0.05$ level.

APPENDIX

The letter and the text of the email that were used to contact potential respondents are included in this appendix. The letter is on the next page; it included the Maryland Department of Natural Resources letterhead. The email also included the letterhead as an image at the top of the email.

Included with the letter and the email at the bottom of the page/email was the following contact information:

Tawes State Office Building – 580 Taylor Avenue – Annapolis, Maryland 21401
410-260-8DNR or toll free in Maryland 877-620-8DNR – *dnr.maryland.gov* – TTY Users
Call via the Maryland Relay



Larry Hogan, Governor
Boyd K. Rutherford, Lt. Governor
Mark J. Belton, Secretary
Frank W. Dawson, III, Deputy Secretary

[UNIQUE_ID CODE]
[OWNER_1]
[MAILADD_1]
[MAILCITY], [MAILSTATE] [MAILZIP]
[DATE]

Dear Boater,

The Maryland Department of Natural Resources and the University of Maryland are conducting a study on the boating environment in the Mid-Atlantic region of the United States. Part of the study entails a survey of boat owners in Mid-Atlantic states to explore their opinions on their boating experiences and opportunities.

We would greatly appreciate your input to help represent boaters in your state. Please consider taking just a few minutes to complete the survey now; you will need to enter the ID code shown at the top of this letter when you respond.

You may take the survey online by going to **www.ResponsiveManagement.com** and clicking on the **2015 Mid-Atlantic Boating Study** link at the top of the page.

OR

You may take the survey by telephone by contacting Responsive Management at:

1-800-432-6135

Please submit your completed survey by June 19, 2015.

The survey is being conducted by Responsive Management (www.ResponsiveManagement.com), an independent research firm that specializes in natural resource and outdoor recreation issues. Please provide the best information your knowledge allows. Your answers will be kept completely confidential and will never be associated with your name in any way.

If you need technical assistance with the survey, please contact Responsive Management via email at research@responsivemanagement.com. For more information about this study, you may visit the Maryland Department of Natural Resources Boating Services webpage or contact me at mark.o'malley@maryland.gov.

Thank you for your time, participation, and input. Your responses will help to improve Maryland as a boating destination as well as improve opportunities and resources in the other areas where you boat.

Sincerely,

Mark O'Malley
Director, Boating Services



Larry Hogan, Governor
Boyd K. Rutherford, Lt. Governor
Mark J. Belton, Secretary
Frank W. Dawson, III, Deputy Secretary

ID code: [CUSTOM ID NUMBER]

June 15, 2015

Dear Boater,

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Thank you for your time, participation, and input. Your responses will help to improve Maryland as a boating destination as well as improve opportunities and resources in the other areas where you boat.

Sincerely,

Mark O'Malley
Director, Boating Services
Maryland Department of Natural Resources

and
Alison Lanier, Research Associate
Responsive Management

ABOUT RESPONSIVE MANAGEMENT

Responsive Management is an internationally recognized public opinion and attitude survey research firm specializing in natural resource and outdoor recreation issues. Our mission is to help natural resource and outdoor recreation agencies and organizations better understand and work with their constituents, customers, and the public. Utilizing our in-house, full-service telephone, mail, and web-based survey center with 75 professional interviewers, we have conducted more than 1,000 telephone surveys, mail surveys, personal interviews, and focus groups, as well as numerous marketing and communication plans, needs assessments, and program evaluations.

Clients include the federal natural resource and land management agencies, most state fish and wildlife agencies, state departments of natural resources, environmental protection agencies, state park agencies, tourism boards, most of the major conservation and sportsmen's organizations, and numerous private businesses. Responsive Management also collects attitude and opinion data for many of the nation's top universities. Specializing in research on public attitudes toward natural resource and outdoor recreation issues, Responsive Management has completed a wide range of projects during the past 25 years, including dozens of studies of hunters, anglers, wildlife viewers, boaters, park visitors, historic site visitors, hikers, birdwatchers, campers, and rock climbers. Responsive Management has conducted studies on endangered species; waterfowl and wetlands; and the reintroduction of large predators such as wolves, grizzly bears, and the Florida panther.

Responsive Management has assisted with research on numerous natural resource ballot initiatives and referenda and has helped agencies and organizations find alternative funding and increase their membership and donations. Additionally, Responsive Management has conducted major organizational and programmatic needs assessments to assist natural resource agencies and organizations in developing more effective programs based on a solid foundation of fact.

Responsive Management has conducted research on public attitudes toward natural resources and outdoor recreation in almost every state in the United States, as well as in Canada, Australia, the United Kingdom, France, Germany, and Japan. Responsive Management has also conducted focus groups and personal interviews with residents of the African countries of Algeria, Cameroon, Mauritius, Namibia, South Africa, Tanzania, Zambia, and Zimbabwe. Responsive Management routinely conducts surveys in Spanish and has conducted surveys in Chinese, Korean, Japanese and Vietnamese and has completed numerous studies with specific target audiences, including Hispanics; African-Americans; Asians; women; children; senior citizens; urban, suburban, and rural residents; large landowners; and farmers.

Responsive Management's research has been upheld in U.S. District Courts; used in peer-reviewed journals; and presented at major natural resource, fish and wildlife, and outdoor recreation conferences across the world. Company research has been featured in most of the nation's major media, including CNN, *The New York Times*, *The Wall Street Journal*, and on the front pages of *USA Today* and *The Washington Post*. Responsive Management's research has also been highlighted in *Newsweek* magazine.

Visit the Responsive Management website at:
www.responsivemanagement.com